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ABSTRACT

To determine whether change orientation was a measurable characteristic of vocational teachers, an instrument was developed consisting of eight attitude subscales designed to measure change orientations relating to: (1) reducing the number of under-prepared people entering the labor market, (2) meeting the needs of disadvantaged students, (3) preparing for employment at an earlier age, (4) cooperative education, (5) individualized instruction and behavioral objectives, (6) adult education, (7) team teaching and differentiated staffing, and (8) core vocational curriculum. The instrument plus a biographical data sheet and versions of scales measuring internal-external control and dogmatic, conservative, and cosmopolitan points of view were sent to two groups of 125 teachers each, in 38 states, representing "early adopters" and "laggards". Analysis of data from 78 percent of the "early adopters" and 69 percent of the "laggards" revealed that change orientation is a measurable characteristic of vocational teachers. The instrument holds promise for further research efforts to determine the utility of the change orientation concept. (Author/SB)

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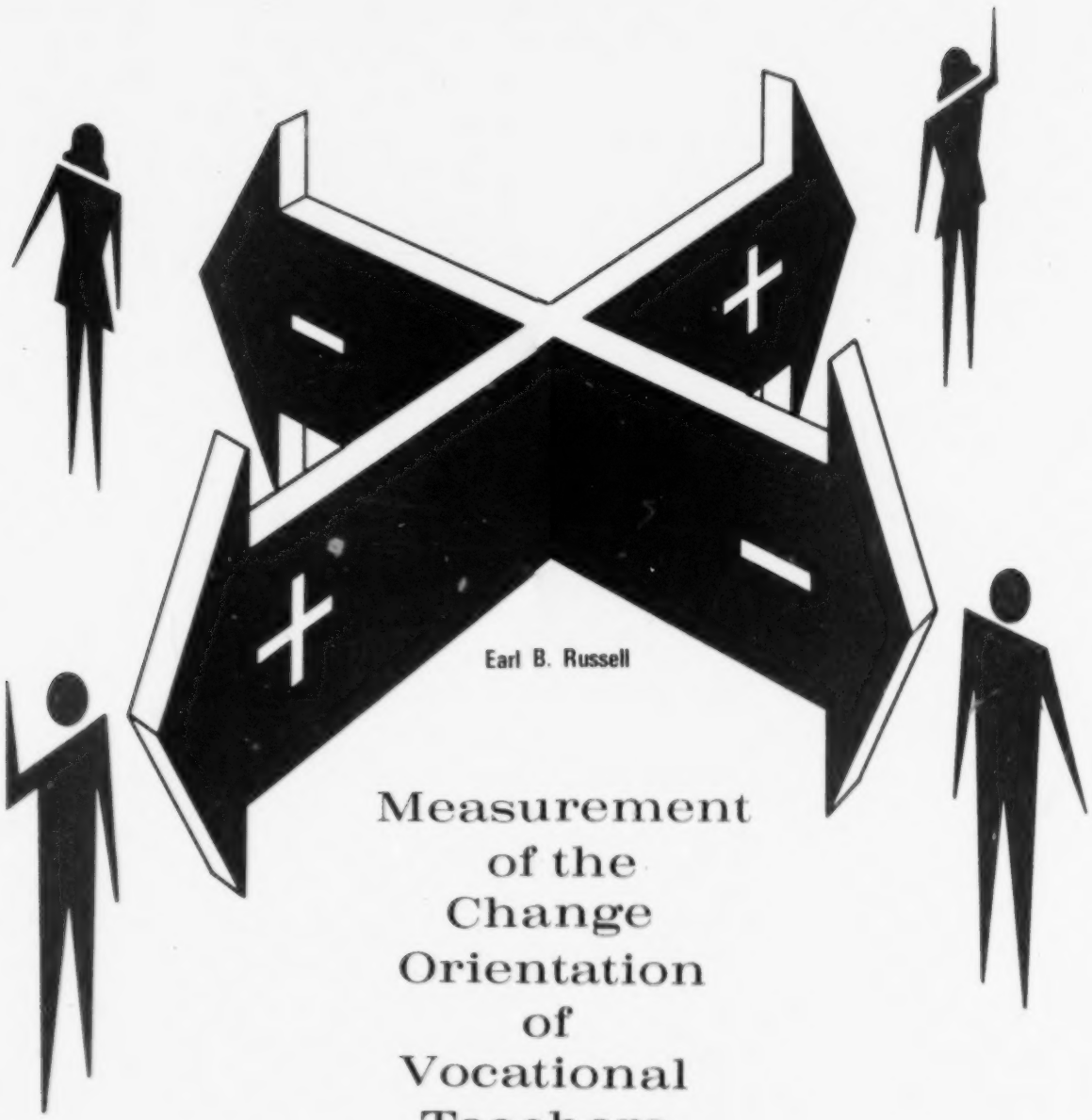

Earl B. Russell

Measurement of the Change Orientation of Vocational Teachers

VT019284

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RESEARCH AND DEVELOPMENT
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MEASUREMENT OF THE CHANGE ORIENTATION OF VOCATIONAL TEACHERS

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FOREWORD

Development of innovation diffusion strategies continues to be a priority area for research in vocational and technical education. This study examines attitudes toward change as a key variable in reducing the time period between invention and implementation of educational innovations. State-level leaders in vocational and technical education who assist vocational teachers comprise the primary audience for this report. Also, the nature of the variable investigated, change orientation, should be of interest to researchers in education, psychology, and sociology. This study is one of a series of studies in the change process in vocational and technical education.

This publication was prepared by Earl B. Russell, research specialist in The Center's Instructional Systems Design Program and former research associate at The Center. William L. Hull, Center specialist in vocational education and Director, Diffusion Program, directed the project. Assistance was also provided by other Center personnel: Edward J. Morrison, Frank C. Pratzner, Darrell L. Ward, Wayne E. Schroeder, J. David McCracken, Michael A. Mead, Susan A. Craft, and Lois G. Harrington.

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Acknowledgement is given to the state directors and supervisors of vocational education in 38 states for their cooperation and to the teachers who participated in this study.

Robert E. Taylor
Director
The Center for Vocational
and Technical Education

SPECIAL REQUEST

The Change Orientation Instrument reported herein is essentially a "new project" probably in need of subsequent revision based on more research. Members of the profession who use the instrument are asked to share the results of any application of the instrument with the author and/or Edward J. Morrison, Assistant Director, R & D Operations, at The Center for Vocational and Technical Education, The Ohio State University, Columbus, Ohio.

Also, your critical comments, suggestions, or questions will be welcomed.

The Author

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SUMMARY

Development of more effective strategies for the diffusion of educational innovations is a paramount need in the American educational system. Vocational education is no exception. Leaders in vocational education are unable, at present, to identify vocational teachers who are likely to implement desirable changes in instructional programs. There is no dependable way to identify teachers who could invent and initiate new programs and practices, or even to differentiate those teachers who are change-oriented from those who are not. The purpose of this study, a first step in the development of diffusion strategies, was to determine whether change-orientation was a measurable characteristic of vocational teachers.

An instrument to measure the change orientation of vocational teachers was developed using the Thurstone method of equal-appearing intervals and scored with a modified Likert procedure. Eight attitude subscales were designed to measure change orientations of vocational teachers relating to specific goals and functional areas of vocational education. Topics on which the subscales were developed are: (1) reducing the number of under-prepared people entering the labor market; (2) meeting the special needs of disadvantaged students; (3) beginning preparation for employment at an earlier age; (4) cooperative education; (5) individualization of instruction and behavioral objectives; (6) adult education; (7) team teaching and differentiated staffing; and (8) core vocational curricula. This instrument was augmented by some biographical items and by versions of the Rokeach Dogmatism Scale, Rotter Internal-External Control Scale, Dye Local-Cosmopolitan Scale, and the McClosky Conservatism Scale which were included for methods validation and for assessing personality attributes believed to be closely associated with change orientation.

Two groups of 125 vocational teachers each, representing "early adopters" and "laggards" in 38 states, comprised the sample for the study. Usable returns were received from 78 percent of the "early adopter" group and 69 percent of the "laggard" group. Data from the two groups were compared in estimating construct and concurrent validity and obtaining reliability assessments. Biographical data were correlated with change orientation scores, and responses to attitude statements were factor analyzed to select the most efficient items for measuring change orientation.

The evidence of this study is that the change orientation of vocational teachers is reliably measurable. Early adopters and laggards differed significantly on five of the original vocational education subscales. A 21-item general factor scale, identified

by factor analysis, was a powerful discriminator between the groups and an efficient and effective measure of change orientation in vocational teachers.

Construct validity was demonstrated by the prediction of group differences in change orientation scores and by the less dogmatic, less conservative, and more cosmopolitan points of view found in teachers with high change-orientation scores. Concurrent validity of the instrument was confirmed by the finding that the early adopters had over twice as many unusual or unique features in their instructional programs as did laggards.

It was concluded that change orientation is a measurable characteristic of vocational teachers with some demonstrable validity. The instrument developed to measure change orientation holds promise for further research efforts to determine the utility of the change orientation concept in (1) formulating innovation diffusion strategies and in (2) investigating dimensions of innovative behavior among teachers.

MEASUREMENT OF THE CHANGE ORIENTATION OF VOCATIONAL TEACHERS

CHAPTER I

THE PROBLEM AND METHODOLOGY

One of the deplorable traits of long-established organizations is their relative slowness to accept meaningful change. The American educational system is described by many writers as a classic example of an institution which is not as responsive as it should be to the needs of a rapidly changing society. Vocational education, as a fundamental component of contemporary education, has been increasingly called upon to adapt to present-day needs by serving a majority rather than a minority of the school population. Recognizing the high level of unemployed Americans, John F. Kennedy, in a February 21, 1961, presidential address to Congress, called for a thorough study of existing vocational education acts "with a view toward their modernization" (Evans, Mangum, and Pragan, 1969, p. 14).

The Vocational Education Act of 1963 which followed that study was intended to redirect existing vocational education programs and to establish new ones. Although many notable improvements resulted from that Act, numerous educational and governmental leaders felt that the intent of that legislation was not realized. Evans (1971) pointed out that the 1963 Act was the first federal vocational education legislation based on a philosophy of meeting the needs of individual students rather than upon meeting the needs of the labor market. However, "most vocational education continued business as usual" (Evans, 1971, p. 270).

The first report of the Advisory Council on Vocational Education (1968), in assessing the impact of the Vocational Education Act of 1963, identified some persistent, internal problems in vocational education which "are concerned with the implications of traditionalism, separateness, and the limitation of opportunities of vocational education for many students" (p. 356).

The members of the Advisory Council continued in their report:

> There . . . strong feelings that the federally reimbursed vocational education programs are not consonant with the manpower problems which confront the nation, nor are they in keeping with the needs of many students. (p. 357)

Few would argue that the Vocational Education Act of 1963 did not represent a significant effort to improve vocational education. Recognizing that the Vocational Education Amendments of 1968 are an extension of that effort, Evans et al. (1969) stated, "whether the achievements of the 1968 amendments will exceed the disappointing performance of the Vocational Education Act of 1963 remains to be seen" (p. 74).

In the long run, significant changes in vocational education programs will be dependent upon changes in the attitudes and performance of vocational teachers. Since changes must occur where the students are, vocational teachers are the locus for change on a large scale. Evans et al. (1969) contended that:

> Innovation, to have any real impact, must reach each instructor. In theory, every school district determines the content of instructional materials and the effectiveness of instruction. In practice, the teacher determines what shall be taught. (p. 52)

STATEMENT OF THE PROBLEM

After reviewing several studies of the adoption of educational practices, Rogers (n.d.) stated, "while exact comparison is rather difficult, it appears that our schools change more slowly than our farms, our medical doctors or our industries. . . . Undoubtedly one reason for the relative slowness of educational adoption when compared with agriculture, medicine, or industry is the absence of scientific *sources* of innovation in education" (emphasis added, pp. 4-8).

Recent efforts to measure teachers' innovativeness by Christiansen (1965), Williams and Hull (1968), Parker (1969), and Hensel and Johnson (1969) have been based upon respondents' scores on adoption scales designed to measure the approximate time of adoption of specific innovations. These innovations have generally consisted of classroom and laboratory teaching techniques and would appear to have limited predictive value when more complex innovations are considered, such as team teaching or a core vocational curriculum.

In short, *post hoc* adoption scales designed to measure innovativeness in the studies mentioned (1) lack generalizability to all vocational service areas, (2) do not suggest where innovations may originate, and (3) fail to provide a strong basis for predicting teacher implementation of major changes in vocational programs. Perhaps the most telling weakness of adoption scales for measuring innovativeness is the general finding that the most "innovative" teachers are <u>older</u> and have <u>more years</u> of teaching experience than their peers, while the literature on innovation

diffusion overwhelmingly shows that innovative persons are generally younger than their peers (Rogers, 1962). This raises a crucial validity question: Do the adoption scales used to measure "innovativeness" of teachers really measure innovativeness? Such scales may actually be measuring "teaching practices" acquired by teachers over a relatively long period of time.

Presser (1969) cast considerable doubt on the use of adoption scales to measure innovativeness. He stated:

> There have been very few attempts to develop innovativeness scales: most of the research work has been done with adoption scales. There is a tendency to think of these adoption scales as innovativeness scales. . . . One needs to be wary of calling adoption of innovation scales "innovativeness scales." (pp. 517-518)

Presser (1969) concluded that use of all adoption behavior does not accurately portray innovativeness because measures of adoption fail to take into account "firstness."

A different approach to studying teacher innovativeness is described by Lin, Leu, Rogers, and Schwartz (1966, pp. 68-69). Teacher attitudes toward change (change orientation) in general and attitudes toward a specific innovation were found to be significantly correlated with a number of variables identified as being important in innovation diffusion. Attitudes toward the *specific* innovation were found to be exceedingly important to its acceptance (p. 82). This "personality variable" approach to studying innovativeness, namely change orientation, was the focus of this instrumentation study. See pages 7-12 for an elaboration of personality characteristics related to attitudes toward change and adoption of innovations.

Significant advances could be made in the development of diffusion strategies for the installation of vocational education innovations among local schools if researchers, state division of vocational education personnel, and teacher educators had some dependable, easy-to-use means of identifying change-oriented vocational teachers. Although a knowledge of one's attitudes does not allow consistent prediction of his behavior, it may be hypothesized that change-oriented persons more frequently exhibit change behavior than non-change-oriented persons, provided the individual is not constrained by real or perceived barriers in his environment.

In short, the problem is that leaders in vocational education are unable, at present, to identify vocational teachers who are likely to be the <u>first</u> to implement changes in instructional programs. There are no dependable ways of (1) determining the potentially most innovative teachers who could invent and initiate new

programs and practices, nor of (2) differentiating those teachers who are change-oriented from those who are not. Therefore, the purposes of this study were to develop and test an instrument to measure the change orientation of vocational teachers.

OBJECTIVES OF THE STUDY

Specific objectives of the study were:

1) To measure the change orientation of vocational teachers, and

2) To test the measurement instrument by establishing its validity and reliability.

RELATED RESEARCH AND THEORY

Although attitude is far from being the sole determinant of behavior, the importance of attitudes in the actions of men is, without question, of major importance. Halloran (1967) emphasized the need for determining individual attitudes and understanding their relation to behavior.

> If we know something about an individual's . . . attitudes, then not only do we have a brief summary of what has gone before in the individual's experience that may affect his behavior, but we may also be able to say something useful about his aspirations, his motivations, his striving toward his goals and to know something about why, along the way, he deals as he does with a great variety of social objects and values. In short, despite its limitations, it is a step in the right direction of reducing the complex to the simple, it helps to make sense and give meaning to individual behavior and in all probability it is the best basis for prediction yet devised. (p. 28)

As was alluded to earlier, teacher's responses to an adoption scale may not measure innovativeness as readily as some researchers have thought. In a similar vein, the identification and utilization of presumably innovative opinion leaders among teachers may not be as effective a change strategy as is popularly believed. At present, the utility of these approaches for facilitating change has not been demonstrated.

The sociometric and key-informant techniques of identifying teacher opinion leaders as reported by Hensel and Johnson (1969) may have potential for locating teachers who are relatively more innovative than the norm for the teacher population. However,

Bice (1970) cautions that, "change agents should not limit or equate opinion leadership with innovativeness" (p. 5). Parker's (1969) study of home economics teachers and Mechling's study (1969) of science teachers revealed that opinion leaders were no more innovative than the average teacher. Blanton, Hull, and Russell (1971) found opinion leadership among teachers to be highly unstable over a two-year period. Most opinion leaders lacked consistent influence. In a study (Lin et al., 1966) of three relatively innovative schools, the researchers stated, "It appeared that the more traditional teachers (i.e., less change-oriented) were more likely to be opinion leaders" (p. 72). Specific findings from this study revealed that the more generally predisposed teachers were to accepting change and innovation in the school, the more likely they were to (1) not be considered opinion leaders on educational matters by their peers, and (2) not be considered respected teachers in the community by their peers.

It should be borne in mind that opinion leaders are not normally innovators, but are usually in the early adopter category as defined by Rogers (1962). The following points are summarized by Rogers as characterizing innovators and early adopters, including the concept of opinion leadership:

	Innovators	Early Adopters
1.	The dominant value of innovators is venturesomeness.	The dominant value of early adopters is respect from their peers.
2.	They appear to gain interpersonal security by being more venturesome than other members of a social system.	They may perceive that respect enhances their security.
3.	They are frequently viewed as deviants from the system's norms.	They rank higher in opinion leadership within a social system than other adopter categories.
4.	They often operate within situational fields external to the social system	They rank higher in opinion leadership within a social system than other adopter categories.
5.	In terms of the situational fields in which they operate, innovators may not perceive their decisions as venturesome.	Not all opinion leaders are early adopters.

6.	They frequently bypass change agents and use more cosmopolite sources of new ideas.	Each adopter category may have its own opinion leaders.
7.	The innovator may have knowledge of an innovation before a change agent.	Opinion leaders "consensually validate" other individuals' perceptions of a new idea, and enhance or retard the adoption of innovations (p. 304).

Thus, the average vocational teacher or state supervisor would be most unlikely to name true innovators as opinion leaders because of the dissimilarity in values and opinions between these rather unlike groups. Innovators' cosmopolitanism places them in a different operational pattern than more conservative members of the social system.

Christiansen (1965) has demonstrated that supervisors are capable of identifying vocational teachers who are generally grouped in the "early adopter" category, and at the other extreme, those teachers in the "laggard" category. From diffusion research, Rogers (1962, p. 162) has devised labels for adopter categories applying to a population: (1) innovators, (2) early adopters, (3) early majority, (4) late majority, and (5) laggards (See Figure I).

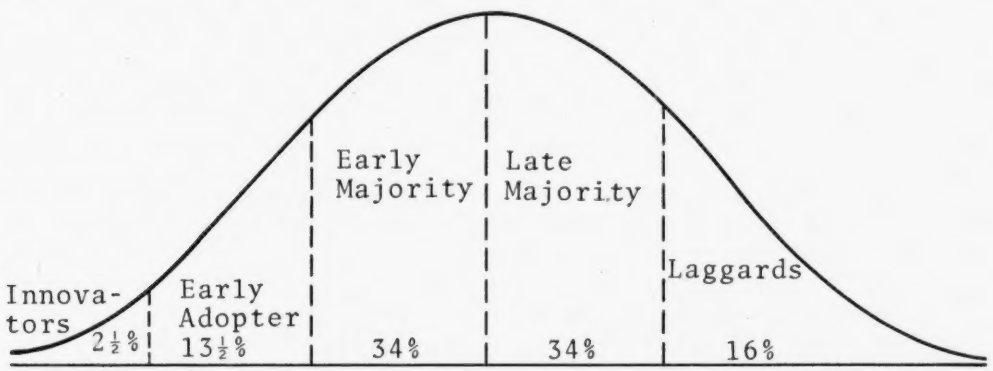

FIGURE I
ADOPTER CATEGORIES BASED ON RELATIVE
TIME OF ADOPTION OF INNOVATIONS

Since research (Christiansen, 1965) has shown that supervisors are not able to identify the true innovators, the "most innovative" known group which can be identified by supervisors is the early adopters. By no means, however, does this category include the majority of persons who generally are change-oriented.

Hence the rationale follows for needing to identify potential innovators and other teachers receptive to change. Lin et al. (1966) affirmed the importance of initiating innovative programs through teachers who are most predisposed toward change. They stated:

> An instrument designed to measure an individual's change orientation would provide vital information for planning the introduction of an innovation into a system. It could be utilized *before* an innovation is introduced, providing information about the member's receptivity to change and the liklihood of successful introduction of the innovation into the system. And by learning what factors might be related to a teacher's change orientation, procedures for altering the level of change orientation could be initiated, provided that these factors were manipulable. (p. 67)

Change orientation is defined in this study as "an individual's predisposition or attitude toward change." Related to this definition is a key assumption that "change orientation" is pervasive and underlies the adopter categories (i.e., innovators through laggards). Change orientation is a relative term, as is one's degree of innovativeness, and is presumed to be normally distributed in the population.

It is further assumed that change orientation is relatively stable and enduring. Krech, Crutchfield, and Ballachey (1962) emphasized succinctly the stability of attitudes and their relation to behavior when they stated:

> . . . as the individual acquires more and more attitudes--as he "assimilates" more and more objects in his world--his improvisations toward these objects and his fresh examinations and interpretations of them decrease. His actions become stereotyped, predictable, and consistent . . . (p. 137)

Etzioni (1972), in describing the ineffectiveness of large-scale educational efforts (e.g., anti-smoking, criminal rehabilitation, education of the disadvantaged child), pointed out a consistent lack of progress in modifying ingrown habits, basic values, personality traits, or other deep-seated matters. Thus, it appears safe to assume relative stability of change orientation, or that one's attitude toward past changes is related to his attitude toward future changes.

Rotter (1966) reported that people who are innovative tend to be internally controlled and feel that their actions have an influence on social affairs. Lippett (1967, p. 79) pointed out

that basic research and evaluation research tell us that the process of linkage between intention and action are complex and frequently nonactualized. It seems that prerequisite to making this linkage is to determine which individuals have "good" intentions. Unless this can be done, no "linkages" can be made. Rogers and Svenning (1969) stated:

> Since the invention process often takes place apart from the units in the system that will eventually adopt the innovation, communication between the inventor and the potential adopter is vital. New ideas can have no effect if they are not made known to potential users. This vital link between innovator and potential adopter is probably one of the weakest interfaces in our contemporary educational system. (p. 22)

The implication of these statements is that the most innovative vocational teachers must first be identified to implement innovations and that the early adopters (frequently opinion leaders) should then speed the implementation process.

Recently there has been an increasing awareness among researchers that attitude measures of a global nature are not accurate indices of the propensity of individuals to act predictably (Fishbein, 1967; Sherif and Sherif, 1967; and Apel, 1966). Traditionally, researchers viewed attitude toward change as a unidimensional concept. Interestingly enough, many of the same researchers agreed that attitudes about broad, somewhat removed changes varied from one individual to another depending upon the nature of the change.

Rokeach (1960) described his Dogmatism Scale in such a way as to suggest its usefulness in predicting attitudes toward change. He defined dogmatism as a state of mind that determines the extent to which a person can receive, evaluate, and act on intrinsic merits of relevant information, unencumbered by irrelevant factors. Rokeach suggested that the Dogmatism Scale effectively measures security-insecurity, which has been used as a personality characteristic by several researchers in attempts to predict attitudes toward change generally.

Lin et al. (1966) and Mechling (1969) found that teachers who scored low on the Dogmatism Scale tended to be predisposed to accepting educational innovations. A low dogmatism score indicated open-mindedness. In a study of the attitudes of 406 University of Missouri Extension staff members toward institutional change, Apel (1966) concluded that the Rokeach Dogmatism Scale, while effective in measuring predisposition to change, could not adequately assess specific attitudes toward change. He indicated that while attitudes toward change in general vary among persons, a more

important factor is an individual's attitude toward specific changes. People usually react in different ways to different changes rather than automatically rejecting or accepting all changes. They discriminate between ideas they consider "good" or "bad," and react in terms of their perceptions and the relative importance they attach to the "goodness" or "badness" of each change. Thus Apel's study supported the theories that a single measure of personality is less adequate than an individual's perception of the effect of specific changes in the prediction of his attitudes toward changes.

Fishbein (1967) insisted ". . . that the chances of predicting behavior from attitudes are practically nil until we at least start measuring attitudes toward the appropriate . . . stimuli, vis-a-vis the behaviors we are attempting to predict" (p. 480).

Bass and Rosen (1969) supported the original Fishbein theory. Behavior-related dimensions of attitudes, namely, certainty, motivational involvement, apathy, and complexity-controversiality were measured by an 18-item Likert scale plus a six-polarity semantic differential. Subjects were 117 college sophomores and the issues were "my academic future," " the quarter system," and "the farm subsidy program." The four behavior-related dimensions were consistent and significant across all three issues relating to degree of self-interest. The findings provide a basis for better understanding of both attitude change and behavioral prediction on the basis of attitude data.

Kerlinger stated:

> . . . one's role conditions one's attitude toward a significant cognitive object related to that role, (or) we can . . . say that an individual is likely to differentiate more sharply in an area significantly related to his enduring motives, needs, and interests. An education professor, for instance, can make sharp differentiations among relatively complex statements about educational matters. He is . . . crucially ego involved in education. The layman, on the other hand, usually has no such high and enduring degree of ego involvement. Therefore, he would not be likely to differentiate so well. In fact we would expect his educational attitude-value field to be relatively unstructured or . . . inconsistently structured. (p. 131)

Sherif and Sherif (1967, p. 137) also agree with the contention for specificity of change orientation measure. They stated that an individual will react to an attitude statement differently if it is one in which there is self-interest (ego-involvement) than he will to a statement which does not stir personal involvement.

A similar notion is put forth by Carlson (1965) from an educational administration perspective. He reported the barriers to the adoption of innovations when they threaten a teacher's competence in an established area of self-esteem. When programmed instruction was introduced in a school system, students were better able to progress at individual rates, but teachers were then unable to "perform" and resisted the need to reorient the teacher role.

Trumbo (1961) developed a scale to measure attitudes toward work-related change. In determining validity of the scale, it was found to predict attitudes toward specific change situations, particularly when the employee perceived or anticipated relatively extensive changes in his own job.

The preceding theories and research strongly suggest the need for the development of a change orientation instrument which is designed to measure attitudes of vocational teachers toward change in specific aspects of instructional programs. Thus, eight *a priori* topics were identified for which preliminary attitude subscales were developed and subsequently reduced via factor analysis. This approach should result in measurement of attitudes toward change with precision superior to traditional global approaches.

HYPOTHESES TESTED

Based upon the preceding theories and research, the following hypotheses were developed for testing by gathering data from "known groups" of early adopter and laggard vocational teachers.

Construct Validity Assessment

Regarding change orientation scores:

1) Early adopters, as a group, have significantly higher change orientation scores on each subscale than the laggard group.

2) Early adopters, as a group, have significantly higher *total* change orientation scores than the laggard group.

3) A significantly negative correlation exists between change orientation scores and scores on the:

   a) Rokeach Dogmatism Scale,
   b) McClosky Conservatism Scale,
   c) Dye Local-Cosmopolitan Scale, and
   d) Rotter Internal-External Control Scale.

Regarding cross-validation measures:

4) Early adopters, as a group, have significantly lower (less dogmatic) scores on the Rokeach Dogmatism Scale than the laggard group.

5) Early adopters, as a group, have significantly lower (less localistic) scores on the Dye Local-Cosmopolitan Scale than the laggard group.

6) Early adopters, as a group, have significantly lower (less conservative) scores on the McClosky Conservatism Scale than the laggard group.

7) Early adopters, as a group, have significantly lower scores (i.e., fewer external items endorsed) on the Rotter Internal-External Control Scale than the laggard group.

Concurrent Validity Assessment

8) Early adopters, as a group, have a significantly higher number of "unique or unusual features" in their instructional programs than the laggard group.

9) A significantly positive correlation exists between change orientation scores on each subscale and the number of "unique or unusual features" in respondents' instructional programs.

10) A significantly positive correlation exists between total change orientation scores and the number of "unique or unusual features" in respondents' instructional programs.

METHODOLOGY

The instrument to measure the change orientation of vocational teachers was developed using the Thurstone method of equal-appearing intervals (Edwards, 1957) and scored with a modified Likert procedure similar to that used by Edwards and Ostrom (1971). Eight subscales of the instrument were designed to measure specific change orientations of vocational teachers relating to specific goals and functional areas of vocational education. "Known groups" of vocational teachers representing "early adopters" and "laggards" in 38 states, with 125 in each group, comprised the sample for the study. Usable returns were received from 78 percent of the "early adopter" group and 69 percent of the "laggard" group. Data from the two groups were compared in estimating construct and concurrent validity and obtaining reliability assessments. The short form Rokeach Dogmatism Scale (Troldahl and Powell, 1965), Rotter

(1966) Internal-External Control Scale, Dye (1963) Local-Cosmopolitan Scale, and the McClosky (1958) Conservatism Scale were included in the instrument for cross-validation and for assessing personality attributes believed to be closely associated with change orientation.[1] Biographical data were correlated with change orientation scores, and responses to attitude statements were factor analyzed using Wherry and Winer's (1953) hierarchical solution to determine the most efficient items for measuring change orientation as well as factor components.

Development of the Instrument

Eight presumably discrete and specific subscales relating to vocational education were constructed. Each of the eight topics represent major areas of innovative effort in contemporary vocational education. "Change" is presumed to be inherent in the topics.

Three of the subscales deal with the three goals in the Vocational Education Amendments of 1968 (Evans et al., 1969, p. 84) which directly relate to substantive areas in which vocational teachers may effect changes. The remaining five subscales concern "functional," across-the-board areas appropriate to all vocational education service areas (i.e., agriculture, business and office, distributive, health, home economics, and trade and industrial). These "functional" areas were identified through literature review and the judgments of vocational educators at The Ohio State University as areas in which much change is occurring or is called for in vocational education.

The three goals of vocational education directly related to teacher activity for which subscales were developed are:

1) Reducing the number of under-prepared people entering the labor market (Topic A),

2) Meeting the special needs of disadvantaged students (Topic B), and

3) Beginning preparation for employment at an earlier age (Topic C).

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[1]For a comprehensive compilation of related attitude measures, refer to Robinson, Athanasiou, and Head (1969); Robinson, Rusk, and Head (1968); and Robinson and Shaver (1969).

The five "functional" areas for which subscales were developed are:

1) Cooperative education (Topic D),

2) Individualization of instruction and behavioral objectives (Topic E),

3) Adult education (Topic F),

4) Team teaching and differentiated staffing (Topic G) and,

5) Core vocational curricula (Topic H).

Since the "functional" areas of vocational education represent areas of direct responsibility for change by teachers, each attitude statement within each subscale is behavioral in nature. Ostrom's (1969) findings suggested that overt behavior may be more accurately predicted from attitude measures if statements are behavioral rather than affective or cognitive expressions of attitude.

Generation and Selection of Items

Fifty Ohio vocational teachers were commissioned as *writers* and *judges* of attitude statements. The teachers, representing each of the established service areas, were selected on the basis of recommendations from teacher educators at The Ohio State University and/or supervisors in the Vocational Education Division, Ohio Department of Education. The 50 teachers were randomly divided into four groups to write items for the subscales (see Figure 2).

Item Writer Group	Subscale Topics (p. 15)							
	A	B	C	D	E	F	G	H
(n = 12-13)								
I	X	X	X	X				
II			X	X	X	X		
III					X	X	X	X
IV	X	X					X	X

FIGURE 2
ASSIGNMENT OF WRITERS TO SUBSCALE TOPICS

Teachers were provided criteria for item writing specified by Edwards (1957, pp. 13-14). In addition, teachers were given instructions in writing items along a five-point continuum (see Appendix A). Approximately 160 statements per subscale were written by the teachers. This number exceeded expectations due to the option provided teachers of writing extra statements on unassigned subscales. Forty-three teachers completed the assignment.

Sixteen graduate students and graduates with professional preparation in attitude scale development at The Ohio State University were commissioned to edit the approximately 1300 attitude statements (see Appendix B). The investigator edited the statements again for technical accuracy and submitted 600 of them (75 statements per subscale) to personnel at The Center for Vocational and Technical Education for the selection of 60 statements per subscale.

The 480 statements selected, equally divided into positively- and negatively-worded items, were submitted in random order to the 43 teachers who wrote the original statements for rating along a seven-interval continuum representing the degree of favorableness-unfavorableness of the statement toward the specific concept of each subscale (see Appendix C). After these ratings were collected from 41 teachers completing this assignment, frequency counts for each interval were tabulated and scale (median) values and Q values computed for each statement. The latter value is a measure of item ambiguity and was used along with scale (median) values in the selection of 30 statements per subscale for use in the instrument (see Appendix D).

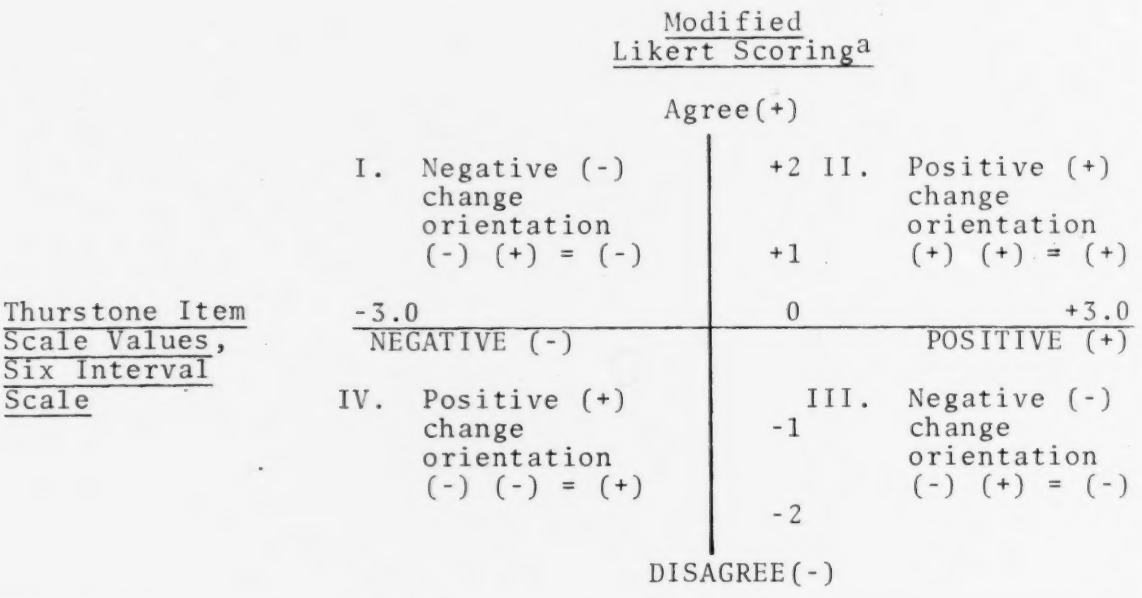
Scoring

Specific change orientation scores on the subscales logically provide a basis for predicting the specific area in which a vocational teacher may innovate. Similarly, a composite change orientation score from the subscales and/or factors identified by factor analysis provides an indication of general innovativeness or receptivity to change.

Scale values obtained from teachers' ratings could theoretically have ranged from 1.0 to 7.0 (the actual range was 1.1 to 6.8). The midpoint of the theoretical range is 4.0, so this value was subtracted, in a linear transformation, from the actual scale values in order to obtain positive and negative scale values for the combination scoring procedure. Thus, an original scale value of 7.0 would have become 3.0 (7.0 - 4.0 = 3.0).

Respondents, representing early adopters and laggards, marked attitude statements pertaining to each of the eight subscales on a strongly agree (+2) to a strongly disagree (-2), 4-point continuum. For each response, this intensity value was multiplied by

the transformed scale value of the statement (see Figure 3). For example, an attitude statement having a transformed scale value of +3.0 with which the respondent "strongly agrees" (+2) would be scored as +6.0 (+3.0 x 2). The subscale and factor scores are the sum of the item scores.



[a]

Strongly Agree	=	+2
Agree	=	+1
Disagree	=	-1
Strongly Disagree	=	-2

FIGURE 3
METHOD OF DETERMINING CHANGE ORIENTATION
SCORE FOR EACH ATTITUDE STATEMENT

This scoring procedure allows the subject to be more discriminating in his response than the traditional Thurstone or Likert scoring procedure alone (Edwards and Ostrom, 1971). Tittle and Hill (1970) stated:

> Development of efficient means for handling such components as intensity and specificity may offer recognizable advantages for improving the predictive efficiency of attitude scales. . . . There is nothing . . . to prevent some combination of content score and intensity score to derive a "total" score. Certainly such possibilities deserve more exploration [p. 478].

Seiler and Hough (1970, p. 172) indicate that Likert scoring of Thurstone scales increases the reliability of items, assuming respondents can make the required discriminations.

Selection of Respondents

Since the primary objective in testing the attitude subscales was to establish validity, it was most desirable to select teachers of vocational education from all service areas who represent "known groups" from each end of a continuum of favorableness-unfavorableness toward change in vocational education. Supervisors in state divisions of vocational education representing the service areas in 38 cooperating states nominated the "least innovative" and "most innovative" vocational teachers in their states who in turn were asked to complete the instrument being developed and tested in this study. Criteria for the supervisory nominations and forms used appear in Appendix E. In many cases, supervisors specified reasons why pairs of teachers were nominated.

One hundred twenty-five teachers in each "known group" were selected by the researcher from approximately 1200 nominations. Selections, made by pairs, were based upon (1) the total number of vocational teachers in the state, (2) the proportion of total vocational enrollment in the state contributed by each service area, (3) the number of nominations received from a state, and (4) the reasons specified by state supervisors for nominating teachers in the "known groups."

Validation of the Instrument

Initial phases in the development of the instrument were focused upon efforts to achieve content validity. Instructions to the teachers who wrote attitude statements emphasized the topic as the basis for generation of statements of varying degrees of favorability. The technical editors who subsequently rewrote the statements were urged to pay particular attention to the relevance of each statement to the given topic.[2] The investigator edited all statements again for appropriateness and technical adequacy and selected what he judged to be 600 of the best statements from the item pool of over 2500. These 600 statements were then submitted to the investigator's graduate committee and personnel at The Center for Vocational and Technical Education for eliminating 120 more of the least appropriate statements. The

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[2]After statements were returned by the editors, John P. Robinson of the University of Michigan Institute for Social Research, Survey Research Center, served as a consultant to advise on analytic criteria for item selection and on methods validation measures to enhance construct validity.

remaining 480 statements were sent to 43 teachers in Ohio for rating to determine Thurstone values. Statements were finally chosen for the instrument (Appendix F) based on distribution of scale values, lack of ambiguity (low Q values), and content validity in the case of tied or nearly identical values.

Construct validity, the basis for nearly all statistical analyses of data from the "known groups" of respondents, was of utmost importance in this study. Scores from each of the eight subscales of the change orientation instrument and total scores were compared for each "known group" to obtain an estimate of construct validity. The concept of construct validity is based upon measuring differences in some theoretical construct hypothesized to explain some aspect of behavior (Cronbach and Meehl, 1955). Lyman (1971) described construct validity as "a combination of logical and empirical evidence of the relationship between the test and a related theory" (p. 187). In this study, the "known groups" of laggards and early adopters roughly represent conservative-liberal personality traits, respectively, and therefore permit comparisons to be made between change orientation scores. Only a rough correspondence between the change orientation scores of the "known groups" was expected, since Cronbach and Meehl (1955) pointed out that members of such groups are expected to overlap.

More detailed analyses of the data for the establishment of construct validity were also performed. Comparison of total scores and subscale scores for the "known groups" were correlated with scores on a short form of the Rokeach Dogmatism Scale (Troldahl and Powell, 1965), the Dye (1963) Local-Cosmopolitan Scale, the McClosky (1958) Conservatism Scale, and the Rotter (1966) Internal-External Control Scale. With the exception of the Rotter scale, these cross-validation measures were randomly arranged in Part III of the questionnaire (Appendix F) to help mask personality dimensions being assessed. In order to obtain a more precise construct validity check on the instrument being developed, the responses to the items were pooled and factor analyzed (Wherry, 1969) to determine the degree of correspondence of the factors with the *a priori* designation of subscale titles.[3]

Concurrent validity of the instrument was also determined by comparing combined scores of the "known groups" on items 12 and 13 in Part I of the questionnaire (see Appendix F). Respondents enumerated "unique or unusual features" of their respective vocational education programs, an indication of the level of change activity or innovation.

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[3]Robert J. Wherry of The Ohio State University Department of Psychology provided extensive consultation regarding the application of factor analysis to this study.

DEFINITION OF TERMS

The following terms are used in this report and should be referred to as needed.

Adoption -- A decision to make full use of a new idea as the best course of action available (Rogers, 1962).

Attitude -- (1) a mental and neural state (2) of readiness to respond, (3) organized (4) through experience (5) exerting a directive and/or dynamic influence on behavior (Allport, 1935).

Change Orientation -- An individual's predisposition or attitude toward change.

Early Adopters -- The category of adopters who adopt new ideas slower than the innovators but more rapidly than any other category of adopters (Rogers, 1962).

Innovation -- An idea, practice, or program with potential value in vocational education which is not implemented on a general basis.

Innovator -- The category of adopters who are the first to adopt a new idea (Rogers, 1962).

Laggard -- The category of adopters who are the last to adopt an innovation (Rogers, 1962).

Opinion Leadership -- The ability to informally influence other individuals' attitudes or behavior in a desired way with relative frequency (Rogers, 1962).

CHAPTER II

FINDINGS

Since the major purpose of this study was to measure the change orientation of vocational teachers using two "known groups" of respondents, biographical data were of interest chiefly to permit description of the groups. The reader will note from the criteria for nominations of teachers (Appendix E) that individual differences other than teachers' use or nonuse of new ideas were to be minimized. Pairs of teachers nominated were to be as similar in other respects as practicable.

Questions regarding biographical data in Part I of the questionnaire (Appendix F) were used largely to mask the intent of items 12 and 13; namely, to gather information on "unique or unusual features" of teachers' instructional programs as a possible means of assessing concurrent validity of the instrument. Item 14, which asked teachers about "major strengths" in their instructional programs, was used to permit teachers to complete this part of the questionnaire on a positive, self-assuring note and was not used in the analyses.

DESCRIPTION OF "KNOWN GROUPS" OF TEACHERS

As data in Table 1 indicate, the proportion of teachers in the early adopter and laggard groups within each vocational service area were approximately equal. Independence between the service area of respondents and membership in "known groups" was substantiated by chi square analysis.

Comparison of the early adopter and laggard groups by sex revealed similar proportions of males and females in the two groups. The early adopter group consisted of 53.6 percent females and 46.4 percent males and the laggard group consisted of 47.7 percent females and 52.3 percent males. The combined groups were 51 percent female and 49 percent male. Chi square analysis substantiated the apparent independence between sex of respondents and adopter category.

Examination of the rural-urban settings in which early adopters and laggards taught yielded some interesting data, but of apparently little direct bearing on the study. Twice as many early adopters taught in rural school settings as compared to laggards,

TABLE 1

NUMBER OF EARLY ADOPTERS AND LAGGARDS BY VOCATIONAL SERVICE AREA

Service Area	Group: Early Adopters No.	Early Adopters %	Laggards No.	Laggards %	Total No.	Total %
Agriculture	18	18.6	14	16.3	32	17.5
Business and office	20	20.6	16	18.6	36	19.7
Distributive education	12	12.4	13	15.1	25	13.7
Health occupations	7	7.2	4	4.7	11	6.0
Home economics	24	24.7	22	25.6	46	25.1
Trade and industrial	14	14.4	15	17.4	29	15.8
Other	2	2.1	2	2.3	4	2.2
Total	97	100.0	86	100.0	183	100.0

Chi square = 1.27; 6 df; $p<.98$.

although the groups were approximately equally represented in urban and combination rural-urban settings (see Table 2).

A series of t tests were computed on the remaining variables in Part I of the questionnaire. Early adopters and laggards were found to be similar, as revealed by nonsignificant t values, in (1) years of formal education, (2) number of schools in which they had taught, (3) number of states in which they had taught, (4) number of teachers in their vocational service area in their schools, (5) number of students in their vocational service area in their schools, and (6) number of occupational experiences other than teaching. However, as Table 3 indicates, the 3.0 occupational experiences of the early adopters as compared to 2.6 for the laggards approached significance at the .10 level.

TABLE 2

NUMBER OF EARLY ADOPTERS AND LAGGARDS BY SCHOOL SETTING

Setting	Group: Early Adopters No.	Early Adopters %	Laggards No.	Laggards %	Total No.	Total %
Predominantly urban	29	30.0	31	36.0	60	32.8
Predominantly rural	34	35.0	17	19.8	51	27.9
Both rural and urban	34	35.0	38	44.2	72	39.3
Total	97	100.0	86	100.0	183	100.0

Chi square = 5.31; 2 df; $p<.10$.

Even though pairs of teachers were to have been nominated by state supervisors to the "known groups" with nearly equal ages and teaching experience, significant differences were found between groups on these variables. Early adopters averaged 41.7 years of age as compared to an average of 47.2 years for laggards. This difference is statistically significant beyond the .001 level. Early adopters had taught an average of 11.5 years as compared to 14.6 years for laggards. This difference is significant at the .03 level. These differences between early adopters and laggards are consistent with findings reported by Rogers (1962).

Since data were analyzed on 97 early adopters and 86 laggards, the question may be raised as to whether a selection factor was operating between groups returning the questionnaire. If so, differences obtained between groups could have been due to something other than differences between groups at the time of nomination. Thus, supplementary t test analyses were performed on the 71 nominated *pairs* as a check on group differences at the time of nomination. The paired groups differed significantly on the same variables as the larger groups, and the magnitudes of the differences were slightly greater than those between the larger groups. Therefore, early adopters and laggards differed in age and experience at the time of nomination in spite of the criteria to minimize these differences (see Appendix E).

TABLE 3

COMPARISON OF EARLY ADOPTERS AND LAGGARDS
ON SELECTED VARIABLES FROM PART I OF QUESTIONNAIRE

Variable	Mean		Difference	t	p
	Early Adopters (n=97)	Laggards (n=86)			
Age (years)	41.7	47.2	5.5	3.65	<.001
Education (years)	16.8	16.5	0.3	1.40	<.17
Teaching (years)	11.5	14.6	3.1	2.22	<.03
Number schools taught in	2.3	2.1	0.2	0.78	<.44
Number states taught in	1.24	1.15	0.09	1.24	<.22
Number teachers in service area in school	5.3	6.7	1.4	1.19	<.24
Number students in service area in school	327.1	274.8	52.3	0.61	<.54
Number of occupational experiences (other than teaching)	3.0	2.6	0.4	1.64	<.11
Number of unique or unusual features in instructional program	3.9	1.8	2.1	4.71	<.001

Hypothesis eight, stating that "early adopters, as a group, have a significantly higher number of 'unique or unusual features' in their instructional programs than the laggard group," was supported by the data. From the combined responses to items 12 and

13 in the questionnaire, early adopters reported an average of 3.9 unique or unusual features as compared to an average of 1.8 unique or unusual features reported by laggards. This difference is statistically significant beyond the .001 level. This finding indicates that the two groups clearly belong to different adopter categories, although no qualitative assessments of the unique or unusual features were made.

SCORES ON SUBSCALES AND CROSS-VALIDATION MEASURES

Data are reported in Table 4 pertaining to t test analyses of scores of the early adopters and laggards on each of the eight subscales, total scores on subscales, and scores on the four methods validation measures.

Hypothesis one, stating that "early adopters, as a group, have significantly higher change orientation scores on each subscale than the laggard group," was only partially supported. Early adopters had significantly higher scores than laggards on the following five subscales:

1) Reducing the number of under-prepared people entering the labor market (Topic A),

2) Beginning preparation for employment at an earlier age (Topic C),

3) Individualization of instruction and behavioral objectives (Topic E),

4) Team teaching and differentiated staffing (Topic G), and

5) Core vocational curricula (Topic H).

Although differences in scores were in the predicted direction in each case, nonsignificant t values were obtained for the following subscales:

1) Meeting the special needs of disadvantaged students (Topic B),

2) Cooperative education (Topic D), and

3) Adult education (Topic F).

Hypothesis two, stating that, "early adopters, as a group, have significantly higher *total* change orientation scores than the laggard group," was supported. This finding was almost inevitable since early adopters had higher scores than laggards on every subscale.

TABLE 4

COMPARISON OF EARLY ADOPTERS AND LAGGARDS
ON SUBSCALES AND METHODS VALIDATION MEASURES

Variable	Mean[a] Early Adopters (n=97)	Laggards (n=86)	Difference	t	p
Subscales:					
Reducing the number of underprepared people entering the labor market	64.6	56.4	8.2	3.18	<.01
Meeting the special needs of disadvantaged students	65.7	60.4	5.3	1.55	<.13
Beginning preparation for employment at an earlier age	52.2	39.4	12.8	2.31	<.03
Cooperative education	63.4	58.2	5.2	1.29	<.20
Individualization of instruction and behavioral objectives	52.0	40.9	11.1	2.75	<.01
Adult education	57.4	54.1	3.3	0.72	<.48
Team teaching and differentiated staffing	51.0	41.2	9.8	2.79	<.01
Core vocational curricula	43.0	32.9	10.1	2.18	<.03
Total score on subscales	449.4	383.4	66.0	3.07	<.01

(cont.)

TABLE 4 Cont.

Variable	Mean[a] Early Adopters (n=97)	Laggards (n=86)	Difference	t	p
Methods validation measures:					
Rokeach Dogmatism Scale	62.6	67.9	5.3	3.05	<.01
McClosky Conservatism Scale	25.0	27.5	2.5	2.48	<.02
Dye Local-Cosmopolitan Scale	16.9	18.4	1.5	2.17	<.04
Rotter Internal-External Control Scale	4.3	4.2	0.1	0.25	<.81

[a]Possible ranges of subscale scores are approximately ± 110.

As Table 4 shows, three of the four hypotheses were supported regarding differences between the "known groups" on the cross-validation measures. Hypothesis four stated, "early adopters, as a group, have significantly lower scores on the Rokeach Dogmatism Scale than the laggard group." This hypothesis was supported.

Hypothesis five, that "early adopters, as a group, have significantly lower (less localistic) scores on the Dye Local-Cosmopolitan Scale than the laggard group," was supported.

Hypothesis six predicted, "early adopters, as a group, have significantly lower scores on the McClosky Conservatism Scale than the laggard group." This hypothesis was supported.

Finally, hypothesis seven, that "early adopters, as a group, have significantly lower scores (i.e., fewer external items endorsed) on the Rotter Internal-External Control Scale than the laggard group," was not supported. This finding suggests, by the relatively few external items endorsed by each group, that teachers participating in this study have a rather strong sense of internal control.

Evidence obtained from scores of the "known groups" on the subscales relating to vocational education and the methods validation scales indicates a strong case for construct validity for five of the subscales. This preliminary evidence of the change orientation construct provided the basis for instrument refinement by subsequent use of factor analysis.

CORRELATIONS OF SUBSCALES WITH CONCURRENT VALIDITY DATA

Data relative to hypotheses nine and 10 are reported in Table 5. Hypothesis nine predicted that "a significantly positive correlation exists between change orientation scores on each subscale and the number of 'unique or unusual features' in respondents' instructional programs." This hypothesis was only partially supported. Only the subscale on "beginning preparation for employment at an earlier age" was significantly correlated with the concurrent validity check for "unique or unusual features," although the degree of relationship was rather meager, r = .238. This low relationship between attitude and overt behavior is similar to that reported by Ostrom (1969).

TABLE 5

CORRELATIONS OF SCORES ON SUBSCALES WITH THE NUMBER OF UNIQUE OR UNUSUAL FEATURES IN TEACHERS' INSTRUCTIONAL PROGRAMS (N = 183)

Subscale	r with number of features
1. Reducing the number of under-prepared people entering the labor market	.138
2. Meeting the special needs of disadvantaged students	.158
3. Beginning preparation for employment at an earlier age	.238*
4. Cooperative education	.187
5. Individualization of instruction and behavioral objectives	.157
6. Adult education	.022

(cont.)

TABLE 5 Cont.

Subscale	r with number of features
7. Team teaching and differentiated staffing	.153
8. Core vocational curricula	.105
9. Total score	.221*

*p <.05.

Hypothesis 10, "a significantly positive correlation exists between total change orientation scores and the number of 'unique or unusual features' in respondents instructional programs," was supported. The degree of relationship was relatively low, r = .221. Since change orientation scores are in all probability the result of multiple variables, it should not be surprising to find that a single variable has a relatively low correlation with change orientation scores.

CORRELATIONS OF SUBSCALES WITH METHODS VALIDATION SCALES

Data pertaining to hypothesis three are reported in Table 6. This hypothesis stated, "a significantly negative correlation exists between change orientation scores and scores on the:

1) Rokeach Dogmatism Scale,

2) McClosky Conservatism Scale,

3) Dye Local-Cosmopolitan Scale, and

4) Rotter Internal-External Control Scale."

The hypothesis was only partially supported, even though all correlations were negative as predicted. Only six of the correlation coefficients exceeded a value of r = .30. Statistically significant correlations were found as follows:

1) between the Rokeach Dogmatism Scale and one subscale (individualization of instruction and behavioral objectives),

TABLE 6

CORRELATIONS OF SCORES ON SUBSCALES WITH SCORES ON METHODS VALIDATION MEASURES (N = 183)

Subscale	r with Dogmatism Scale	Conservatism Scale	Local-Cosmopolitan Scale	Internal-External Control Scale
1. Reducing the number of under-prepared people entering the labor market	-.130	-.209*	-.199*	-.148
2. Meeting the special needs of disadvantaged students.	-.127	-.289**	-.214*	-.056
3. Beginning preparation for employment at an earlier age	-.077	-.089	-.220*	-.084
4. Cooperative education	-.043	-.100	-.056	-.106
5. Individualization of instruction and behavioral objectives	-.226*	-.367**	-.330**	-.051
6. Adult education	-.167	-.267**	-.167	-.066
7. Team teaching and differentiated staffing	-.165	-.319**	-.320**	-.027
8. Core vocational curricula	-.097	-.216*	-.201*	-.043
9. Total Score	-.190	-.338**	-.320**	-.087

*p <.05.
**p <.01.

2) between the McClosky Conservatism Scale and six subscales plus total change orientation score, and

3) between the Dye Local-Cosmopolitan Scale and six subscales plus total change orientation score.

No significant correlations were found between change orientation scores and scores on the Rotter Internal-External Control Scale. This may have been due to the investigator's decision to shorten the original scale, on the basis of item-test intercorrelations below .23, in order to reduce the length of the questionnaire. However, a more plausible explanation may be that both groups of teachers responding to the questionnaire have a relatively strong sense of internal control.

INTERCORRELATION AMONG THE EIGHT SUBSCALES

The reader will remember that the t values between the mean scores of early adopters and laggards on five of the subscales were significant. However, correlations of the eight subscales with (1) the number of unique or unusual features in teachers' instructional programs, and (2) with the methods validation measures were relatively low. Table 17 (Appendix H) shows the intercorrelations among the eight subscales. It should be noted from the table that nearly all intercorrelations were significant and most of them were highly significant.

The relatively high intercorrelation among subscales lends credence to the result of factor analysis which yielded a single general factor called change orientation. The reader will remember that the eight *a priori* subscales were constructed for their heuristic value in attempting to develop a broad-based instrument.

TESTS FOR RELIABILITY

Kuder-Richardson reliability (Formula 8) coefficients were calculated for each of the subscales (see Table 7). The coefficients ranged from .76 to .97, with six of the subscales having reliability coefficients greater than .90.

Item-test correlations within each subscale served as the basis for the computation of K-R reliability coefficients. Only nine of the 240 attitude statements had item-test correlations below .20.

FACTOR ANALYSIS

Application of factor analysis to teachers' responses to the 240 statements in the eight subscales permitted investigation of

TABLE 7

RELIABILITY COEFFICIENTS FOR THE EIGHT SUBSCALES

Subscale	K-R reliability coefficient (formula 8)
1. Reducing the number of under-prepared people entering the labor market	.76
2. Meeting the special needs of disadvantaged students	.86
3. Beginning preparation for employment at an earlier age	.97
4. Cooperative education	.92
5. Individualization of instruction and behavioral objectives	.94
6. Adult education	.92
7. Team teaching and differentiated staffing	.92
8. Core vocational curricula	.93

the psychological structure of change orientation. A general factor and three subfactors were identified from the factor loading matrix (see Appendix G for the complete matrix). Tables 8, 9, 10, and 11 represent combinations of items with relatively high loadings on the respective factors. These loadings, based on item intercorrelations, should most efficiently measure the factors. The purpose of identifying items with high loadings within each factor was to develop a revised instrument to efficiently and effectively measure change orientation.

Cumulative factor loadings on the general factor in Table 8 show that the general factor had a loading of 9.2 and that the subfactors had loadings of approximately 2.5. Items were selected from six of the original subscales dealing with reducing the number of under-prepared people entering the labor market, education for the disadvantaged, occupational education in the elementary grades, individualized instruction and behavioral objectives, adult education, and differentiated team teaching.

TABLE 8

GENERAL FACTOR ITEM SELECTION FROM FACTOR LOADINGS

Item Number	General factor loading	Sub-factor 1 loading	Sub-factor 2 loading	Sub-factor 3 loading
63	.506	.240	-.002	-.076
43	.478	.149	.115	.068
	.984	.389	.113	-.008
62	.474	.187	.071	-.024
	1.458	.576	.184	-.032
150	.453	.115	.123	.144
	1.911	.691	.307	.112
193	.450	.064	.221	.201
	2.361	.755	.528	.313
197	.476	.124	.162	.095
	2.837	.879	.690	.408
207	.474	.051	.210	.304
	3.311	.920	.900	.712
210	.481	.058	.220	.278
	3.792	.978	1.120	.990
192	.447	.111	.132	.137
	4.239	1.089	1.252	1.127
75	.444	.177	.045	-.000
	4.683	1.266	1.297	1.127
76	.453	.162	.095	.005
	5.136	1.428	1.392	1.132
84	.451	.133	.148	.039
	5.587	1.561	1.540	1.171
133	.446	.054	.242	.205
	6.033	1.615	1.782	1.376
147	.417	.096	.089	.203
	6.450	1.711	1.871	1.579
189	.431	.108	.113	.150
	6.881	1.819	1.984	1.729
195	.436	.096	.130	.180
	7.317	1.915	2.114	1.909
209	.403	.121	-.027	.244
	7.720	2.036	2.087	2.153
19	.392	.239	-.218	.033
	8.112	2.275	1.869	2.186
47	.390	.090	.145	.106
	8.502	2.365	2.014	2.292
145	.393	.091	.139	.114
	8.895	2.456	2.153	2.406
179	.352	.025	.267	.124
Totals	9.247	2.481	2.420	2.530

Note: - Loadings for each item are summed.

Subfactor 1 was relatively weak as indicated by cumulatively factor loadings in Table 9. Factor loadings for each item in Subfactor 1 were lower than the loadings on the general factor. Items were selected from four of the original subscales dealing with reducing the number of under-prepared people entering the labor market, occupational education in the elementary grades, individualized instruction and behavioral objectives, and differentiated team teaching.

TABLE 9

SUBFACTOR 1 - ITEM SELECTION FROM FACTOR LOADINGS

Item Number	General factor loading	Sub-factor 1 loading	Sub-factor 2 loading	Sub-factor 3 loading
10	.367	.198	-.145	.047
16	.377	.204	--.082	-.046
	.744	.402	-.227	.001
61	.375	.215	-.080	-.092
	1.119	.617	-.307	-.091
81	.424	.161	.148	-.114
	1.543	.778	-.159	-.205
89	.460	.159	.120	-.008
	2.003	.937	-.039	-.213
123	.321	.166	-.058	-.024
	2.324	1.103	-.097	-.024
188	.444	.173	-.057	.152
Totals	2.768	1.276	-.154	-.085

Note: - Loadings for each item are summed.

Subfactors 2 and 3 were relatively strong as indicated by data in Tables 10 and 11, respectively. Both of these subfactors had cumulative factor loadings greater than the general loading for the items selected. Items in Subfactor 2 originated entirely from the subscale on Adult Education. Items in Subfactor 3 originated entirely from the subscale on Core Vocational Curricula.

A listing of the items in the general factor and three subfactors follows Table 11 on pages 36-40. The reader should note that 17 of the 21 items in the general factor came from the subscales dealing with occupational education in the elementary grades, individualized instruction and behavioral objectives, and differentiated team teaching.

TABLE 10

SUBFACTOR 2 - ITEM SELECTION FROM FACTOR LOADINGS

Item Number	General factor loading	Sub-factor 1 loading	Sub-factor 2 loading	Sub-factor 3 loading
151	.176	-.113	.443	.120
152	.353	-.006	.474	-.036
	.529	-.119	.917	.084
154	.305	-.031	.517	-.077
	.834	-.150	1.434	.007
157	.395	-.026	.576	-.030
	1.229	-.176	2.010	-.023
161	.257	-.108	.650	-.046
	1.486	-.284	2.660	-.069
164	.235	-.071	.541	-.076
	1.721	-.355	3.201	-.145
165	.334	-.029	.558	-.094
	2.055	-.384	3.759	-.239
167	.345	-.076	.683	-.068
	2.400	-.460	4.442	-.307
173	.340	-.032	.470	.045
	2.740	-.492	4.912	-.262
180	.328	-.045	.603	-.102
Totals	3.068	-.537	5.515	-.364

Note: - Loadings for each item are summed.

TABLE 11

SUBFACTOR 3 - ITEM SELECTION FROM FACTOR LOADINGS

Item Number	General factor loading	Sub-factor 1 loading	Sub-factor 2 loading	Sub-factor 3 loading
211	.253	.015	-.141	.554
213	.352	-.001	-.011	.601
	.605	.014	-.152	1.155
215	.266	-.035	.011	.558

(cont.)

TABLE 11 Cont.

Item Number	General factor loading	Sub-factor 1 loading	Sub-factor 2 loading	Sub-factor 3 loading
	.871	-.021	-.141	1.713
217	.208	-.057	.027	.525
	1.079	-.078	-.114	2.238
218	.202	-.057	.050	.483
	1.279	-.135	-.064	2.721
219	.328	.001	-.016	.560
	1.607	-.134	-.080	3.281
220	.273	.044	-.176	.524
	1.880	-.090	-.256	3.805
224	.172	-.035	-.114	.575
	2.052	-.125	-.370	4.380
229	.262	-.093	.117	.632
	2.314	-.218	-.253	5.012
233	.098	-.044	-.061	.415
	2.412	-.252	-.314	5.427
234	.192	-.029	-.066	.519
	2.604	-.281	-.380	5.946
237	.202	-.021	-.051	.484
	2.806	-.302	-.431	6.430
238	.260	-.033	-.057	.635
	3.066	-.335	-.488	7.065
239	.181	-.040	.025	.418
	3.247	-.375	-.463	7.483

Note: - Loadings for each item are summed.

General Factor

Item Number	Statement
19	Schools can't do much to develop positive attitudes toward work.
43	We now have more vocational programs than we need for the disadvantaged.
47	Vocational education can do little to alleviate the problems of disadvantaged people.

Item Number	Statement
62	Students can benefit little from occupational education in the elementary grades.
63	I think there's no harm in starting occupational preparation for young school children.
75	Early occupational education may stimulate a better attitude toward school work in later years.
76	Vocational teachers can make a real contribution to occupational education at the elementary level.
84	There is no need in the elementary curriculum for the addition of occupational education.
133	I find that individualized instruction using behavioral objectives is valuable in helping the student succeed.
145	I believe it is more important to work with the entire class than to spend a lot of time with individuals.
147	I accept the idea that individualized instruction using behavioral objectives allows students to experience success more often.
150	I regularly use behavioral objectives with individualized learning experiences to help my students develop to their potential.
179	I argue that increased emphasis on adult vocational programs would eventually reduce inner-city unemployment.
189	As part of a teaching team I could spend more time developing creativity, responsibility, and habits of inquiry in students.
192	I teach my classes without assistance and discourage others from helping.
193	I would greatly dislike being a member of a differentiated teaching team.
195	I uphold the differentiated team teaching concept as permitting a natural exchange of ideas.
197	I do not work well enough with others to make differentiated team teaching work.

Item Number	Statement
207	I'm convinced that differentiated team teaching is a waste of time.
209	Use of differentiated team teaching would allow me to put more varied content into my lessons.
210	I say that differentiated team teaching is asking too much of established teachers.

Subfactor 1

Item Number	Statement
10	A vocational survey course should be required of students early in high school.
16	I believe recent changes in vocational programs can reduce the number of potential dropouts.
61	Beginning preparation for employment in the elementary grades is absurd.
81	Whenever possible, elementary students should be encouraged to think about their future occupation.
89	I hope to learn more about occupational education for elementary schools.
123	I try to help each student decide what level of work he can expect to achieve--then I try to help him achieve it.
188	I'm convinced the cooperation of "teaching specialists" in a team would produce a superior type of education.

Subfactor 2

Item Number	Statement
151	I find that adults in vocational classes refuse to heed my advice.
152	I say adult education is not the business of the high school vocational teacher.

Item Number	Statement
154	I initiate new courses for adults whose present vocational skills are obsolete.
157	I look on adult vocational education as more of a burden than an opportunity for the teacher.
161	Adult education is a top priority item in my teaching schedule.
164	I assume responsibility for recruiting adults for vocational education.
165	I carry out adult vocational education as a vital part of the total program I conduct.
167	I regularly promote and teach vocational classes for adults.
173	Teaching adults keeps me up-to-date with today's world of work.
180	I avoid teaching adult courses--my other teaching is a full-time job.

Subfactor 3

Item Number	Statement
211	I highly recommend a core vocational curriculum to high school students, regardless of their career objectives.
213	I don't expect students to gain much from a core vocational curriculum.
215	I support the association of students of potentially diverse occupations in core vocational courses.
217	I maintain that evidence supports the core vocational curriculum.
218	I insist on a well-developed core vocational curriculum as a basis for specialized occupational programs.
219	Teaching in a core vocational curriculum, I could foster better cooperation and understanding in the school.

Item Number	Statement
220	I advocate that a core vocational curriculum be required of high school students regardless of plans after graduation.
224	I insist that each student take a core vocational curriculum so other instruction will make more sense.
229	I suspect a core vocational curriculum would present a general overview with little value to students.
233	I prefer to set up an occupational area program rather than to put a student in a core vocational curriculum.
234	I discourage a core vocational curriculum for students interested in specific occupational areas.
237	I am more interested in teaching the skills for a specific group of occupations than in providing a core curriculum.
238	I find that the core concept of vocational education is too general for practical use.
239	I campaign vigorously for the adoption of a core vocational curriculum in my school.

Comparisons of scores of early adopters and laggards on the general factor and on each subfactor with the effect of the general factor partialed out[1] are reported in Table 12. As the data show, the general factor was a powerful discriminator between groups, while none of the subfactors discriminated when the effect of the general factor had been partialed out. These findings suggest that change orientation consists of a single general factor and that the subfactors identified measure something other than change orientation. Other types of "known groups" may need to be compared to determine what the subfactors measure.

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[1]The effect of the general factor was partialed out by predicting raw scores on the subfactors from scores on the general factor using the following regression equation:

$$Y' = \frac{r_{xy} s_y}{s_x} (X - M_x) + M_y$$

where Y' is the predicted raw score on the subfactor for each teacher, and X is the score on the general factor.

Thus, even though vocational teachers may have attitudes toward specific kinds of change as the theories in Chapter I suggest, findings in this study indicate a general change orientation underlies vocational teachers' attitudes toward change relating to the subscales investigated.

TABLE 12

COMPARISON OF EARLY ADOPTERS AND LAGGARDS ON THE GENERAL FACTOR AND SUBFACTORS

Variable	Mean		Difference	t	p
	Early Adopters (n=97)	Laggards (n=86)			
General factor	49.88	40.86	9.02	3.32	<.001
Subfactor 1	0.01	-1.97	1.98	0.05	<.96
Subfactor 2	-2.96	1.15	4.11	0.91	<.37
Subfactor 3	1.31	-2.51	3.82	1.09	<.28

Data in Table 13 show the relationship between scores on the 21-item general factor scale and selected variables in the study. Since the general factor represents the "best instrument" for most efficient measurement of change orientation, correlation coefficients given should be reasonably accurate estimates of the true relationship between change orientation and the selected variables.

Significant correlations were found between change orientation scores from the general factor scale and (1) the number of occupational experiences other than teaching, (2) the Rokeach Dogmatism Scale, (3) the McClosky Conservatism Scale, and (4) the Dye Local-Cosmopolitan scale. The degree of relationship of these three personality attribute scales with the general factor score was stronger in each case than the relationship between these three measures and *total* scores of respondents on the eight subscales.

The "number of unique or unusual features in instructional program" was the only other variable having a correlation coefficient approaching significance. Again, this relatively low

TABLE 13

CORRELATIONS OF SCORES ON THE GENERAL FACTOR WITH SELECTED VARIABLES

Variable	r with General Factor Score
Age (years)	-.049
Education (years)	.078
Teaching (years)	.017
Number schools taught in	.119
Number states taught in	.124
Number teachers in service area in school	.006
Number students in service area in school	.007
Number of occupational experiences (other than teaching)	.217*
Number of unique or unusual features in instructional program	.179
Rokeach Dogmatism Scale	-.215*
McClosky Conservatism Scale	-.361**
Dye Local-Cosmopolitan Scale	-.346**
Rotter Internal-External Control Scale	-.071

*p <.05.
**p <.01.

correlation is consistent with findings regarding attitude and overt behavior reported by Ostrom (1969)

The reader should remember that the "number of unique or unusual features" was intended primarily to determine whether or not the early adopters and laggards differed. The difference between groups was highly significant as shown in Table 3, page 24.

Therefore, since early adopters had significantly higher scores on the general factor and significantly more "unique or unusual features" in instructional programs than the laggards, concurrent validity of the general factor scale is confirmed. The study of innovative behavior of vocational teachers *per se* was not a central focus of this study.

TECHNICAL DATA

Technical data on the revised instrument to measure the change orientation of vocational teachers should be valuable to those who may use the instrument in subsequent research studies and/or in facilitating change in vocational education. The 21-item instrument was found to have a Kuder-Richardson Formula 8 reliability of .91. This relatively high reliability is attributable in part to selectivity made possible by an initial item pool of over 2500 statements. Relatively few attitude measurement studies reported in the literature have begun with an item pool of more than 200 or 300 statements.

Table 14 provides data on item-test correlations for the instrument, indicating how item scores relate to the total score on the instrument.

Users of the revised instrument may find the mean scores of the early adopters and laggards helpful in interpreting scores of more nearly normal populations of vocational teachers. The mean score of the early adopters was 49.88 and the mean score of the laggards was 40.86, using the combination Thurstone-Likert scoring procedure described on pages 16-18. The difference in means discriminated between the groups at the .001 level of significance. Recognizing the complex nature of the scoring procedure employed in this study, the instrument was rescored by using the simpler Likert method only. Strong disagreement with a positive statement was scored as 1 and strong agreement was scored as 4. Negative statements were scored by reversing these weights. The Likert score of the early adopters was 68.46 and the mean Likert score of the laggards was 65.03. This difference in means discriminated between the groups at the .002 level of significance.

Although the Likert method of scoring is somewhat less effective in discriminating between early adopters and laggards as compared to the combination scoring procedure, the two sets of scores correlated with one another very highly, $r = .98$. Thus, most leaders in vocational education who use the instrument should, for the sake of convenience, score the instrument by using the Likert method.

The factor analytic finding that 17 of the final 21 items came from three of the eight subscales suggests that the most efficient

TABLE 14

ITEM-TEST CORRELATIONS OF ATTITUDE STATEMENTS IN THE FINAL INSTRUMENT

Item Number	Statement	Item-Test Correlation
19	Schools can't do much to develop positive attitudes toward work.	.40
43	We now have more vocational programs than we need for the disadvantaged.	.46
47	Vocational education can do little to alleviate the problems of disadvantaged people.	.50
62	Students can benefit little from occupational education in the elementary grades.	.61
63	I think there's no harm in starting occupational preparation for young school children.	.59
75	Early occupational education may stimulate a better attitude toward school work in later years.	.61
76	Vocational teachers can make a real contribution to occupational education at the elementary level.	.57
84	There is no need in the elementary curriculum for the addition of occupational education.	.59
133	I find that individualized instruction using behavioral objectives is valuable in helping the student succeed.	.61
145	I believe it is more important to work with the entire class than to spend a lot of time with individuals.	.55
147	I accept the idea that individualized instruction using behavioral objectives allows students to experience success more often.	.58

TABLE 14 Cont.

Item Number	Statement	Item-Test Correlations
150	I regularly use behavioral objectives with individualized learning experiences to help my students develop to their potential.	.63
179	I argue that increased emphasis on adult vocational programs would eventually reduce inner-city unemployment.	.42
189	As part of a teaching team I could spend more time developing creativity, responsibility, and habits of inquiry in students.	.64
192	I teach my classes without assistance and discourage others from helping.	.56
193	I would greatly dislike being a member of a differentiated teaching team.	.66
195	I uphold the differentiated team teaching concept as permitting a natural exchange of ideas.	.60
197	I do not work well enough with others to make differentiated team teaching work.	.60
207	I'm convinced that differentiated team teaching is a waste of time.	.64
209	Use of differentiated team teaching would allow me to put more varied content into my lessons.	.58
210	I say that differentiated team teaching is asking too much of established teachers.	.61

items for measuring change orientation do not necessarily come from each of the eight *a priori* subscales. The selection of only 21 items in the final instrument *does not* suggest that all other items from the pool of 240 were unsatisfactory. Many other items

had high factor loadings on the general factor but were deleted in order to keep the final instrument as brief as practicable for subsequent administration.

CHAPTER III

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Before citing specific conclusions, it may be helpful to review the study briefly by reexamining the problem and methodology. Findings will then be summarized, followed by conclusions and recommendations.

SUMMARY

The Problem and Methodology

The problem faced by state-level leaders in vocational education of being unable to identify potentially innovative vocational teachers and teachers receptive to change was the focus of this study. Systematic identification of such teachers could be an effective means of reducing the time required between invention and adoption of educational innovations (Wall, 1972). Thus, the objective of this study was to develop a valid and reliable instrument to measure the change orientation of vocational teachers.

Thurstone's method of equal-appearing intervals was used in constructing eight subscales relating to specific topics in vocational education. Scoring was done by a modified Likert procedure. "Early adopter" and "laggard" vocational teachers, nominated by supervisors in 38 states, were the respondents in the study. Data provided by 97 early adopters and 86 laggards were compared in determining construct and concurrent validity and obtaining reliability assessments. Additional evidence of construct validity was obtained by comparing the "known groups" on scores from four scales for assessing personality attributes believed to be related to change orientation. Biographical data were used to describe the two groups of teachers. Attitude statements were factor analyzed to determine the most efficient items for measuring change orientation.

Summary of Findings

Findings are summarized below for each of the hypotheses regarding change orientation scores resulting from the eight subscales.

1) Early adopters, as a group, have significantly higher change orientation scores on each subscale than the laggard group.

This hypothesis was partially supported in that early adopters had significantly higher scores than laggards on five of the subscales (Topics A, C, E, G, and H--see p. 25). Differences in scores between groups were in the predicted direction in each case.

2) Early adopters, as a group, have significantly higher *total* change orientation scores than the laggard group.

This hypothesis was supported. This finding was practically assured since early adopters had higher scores than laggards on every subscale.

3) A significantly negative correlation exists between change orientation scores and scores on the:

a) Rokeach Dogmatism Scale,
b) McClosky Conservatism Scale,
c) Dye Local-Cosmopolitan Scale, and
d) Rotter Internal-External Control Scale.

Although all correlations were negative as predicted, the hypothesis was only partially supported. The degree of relationship between change orientation scores and methods validation measures was weak since only six correlation coefficients were greater than $r = .30$. The McClosky Conservatism Scale and the Dye Local-Cosmopolitan Scale correlated significantly with six of the subscales and with the total change orientation score. The Rokeach Dogmatism Scale yielded a significantly negative correlation with one subscale and the correlation with total change orientation score approached significance. No significant correlations were obtained between change orientation scores and a shortened form of the Rotter Internal-External Control Scale.

Below is a summary of findings regarding the scores of early adopters and laggards on each of the methods validation measures of personality attributes considered to be related to change orientation.

4) Early adopters, as a group, have significantly lower (less dogmatic) scores on the Rokeach Dogmatism Scale than the laggard group.

This hypothesis was supported. This finding is consistent with studies reported by Lin et al. (1966), Mechling (1969), and Apel (1966).

5) Early adopters, as a group, have significantly lower (less localistic) scores on the Dye Local-Cosmopolitan Scale than the laggard group.

This hypothesis was supported. As was anticipated based on Rogers' (1962) findings, laggards held localistic points of view and early adopters held more cosmopolitan points of view.

6) Early adopters, as a group, have significantly lower (less conservative) scores on the McClosky Conservatism Scale than the laggard group.

This hypothesis was supported. Although designed to measure political attitudes, the conservatism scale effectively discriminated between the more conservative laggards and the more liberal early adopters.

7) Early adopters, as a group, have significantly lower scores (i.e., fewer external items endorsed) on the Rotter Internal-External Control Scale than the laggard group.

This hypothesis was not supported. Scores for the two groups were virtually identical. This may mean that vocational teachers studied have no strong sense of internal versus external control. Another possible explanation of this result is that the effectiveness of the original scale may have been reduced due to the investigator's decision to shorten the scale.

8) Early adopters, as a group, have a significantly higher number of "unique or unusual features" in their instructional programs than the laggard group.

This hypothesis was supported. Early adopters reported twice as many "unique or unusual features" in their instructional programs as the laggards.

9) A significantly positive correlation exists between change orientation scores on each subscale and the number of "unique or unusual features" in respondents' instructional programs.

This hypothesis was only partially supported since only one statistically significant correlation was obtained. The subscale yielding the significant correlation was "beginning preparation for employment at an earlier age." One should not be surprised by this finding since change orientation and respondents' listing of "unique or unusual features" are in all probability influenced by many variables.

10) A significantly positive correlation exists between total change orientation scores and the number of "unique or unusual features" in respondents' instructional programs.

This hypothesis was supported. However, the degree of relationship was low, r = .221. Thus, it follows that change orientation scores are not a good predictor of the number of "unique or unusual features" in teachers' instructional programs and vice versa. This is consistent with Presser's (1969) findings cited earlier that adoption behavior is not an accurate indicator of innovativeness because "firstness" is not taken into account. For an investigation of the multivariate nature of adoption behavior, see the study by Williams and Hull (1968).

CONCLUSIONS

Evidence presented in this study indicates that the change orientation of vocational teachers is measurable. Comparison of scores from early adopters and laggards on eight subscales and the revised general factor scale showed significant and consistent differences between early adopters and laggards on most of these change orientation measures. Every prediction made was substantiated by findings showing differences and/or relationships in the predicted direction with the exception of scores on the Rotter Internal-External Control Scale.

Cautions in the use of the change orientation instrument are based upon the central theme that the instrument was not designed to assess teacher performance. It would be erroneous to presume that change-oriented teachers are necessarily more effective in their instruction than non-change-oriented teachers.

Persons administering the change orientation instrument to vocational teachers should guard against suggesting to teachers that their scores will result in labeling teachers in possibly undesirable ways. Rather, it must be emphasized to teachers that the instrument is a tool to help state supervisors or teacher educators better assist teachers in conducting their instructional programs. Every precaution should be taken to keep teachers from feeling threatened by the instrument.

Finally, as a matter of convenience, persons who administer the instrument to vocational teachers should usually employ the traditional Likert method of scoring. Exceptions to this statement may be made when it is desirable to get optimum discrimination between or among scores of various groups of teachers. In these instances, the more complex method of scoring employed in this study may be preferred.

The instrument to measure the change orientation of vocational teachers holds promise for further research efforts to determine the utility of the change orientation concept in (1) formulating innovation diffusion strategies and in (2) investigating dimensions of innovative behavior among teachers.

RECOMMENDATIONS FOR FURTHER RESEARCH

Based on present evidence of the validity and reliability of the change orientation instrument developed, some recommendations for further research follow.

1) Studies to classify teachers based on innovative behavior as innovators, early adopters, early majority, late majority, and laggards need to be conducted. Then by determining how these groups score on the change orientation instrument, the relationship between change orientation and innovation could be established. Such knowledge could be a key factor in implementing change at the local level.

2) In order to improve prediction of innovative behavior from change orientation scores, studies of perceived or real situational factors which inhibit or facilitate innovative behavior need to be conducted.

3) Studies should be conducted to establish the relationship of change orientation to opinion leadership among vocational teachers, since change-oriented teachers are younger and less experienced than non-change oriented teachers. Other studies have found that opinion leaders among vocational teachers are older and more experienced than their peers.

4) A replication of this study is needed on a larger sample. Undoubtedly, different factor loadings would result on the items. This, of course, could result in different items being selected for the next "final" instrument.

5) A need exists for further investigation of topics to be included in the instrument in order to determine the desirability of including additional items in the change orientation instrument.

6) As a further check on construct validity of the instrument, studies should be conducted with vocational teachers who have undergone experimental attitude change regarding innovation to determine whether the change orientation instrument can detect attitude change.

7) The instrument should be standardized on norm groups of vocational teachers by service area group, geographical area, socioeconomic setting of schools, age, etc. Such standardization would make score interpretation possible.

8) Studies should be conducted to determine ways of facilitating use of the change orientation instrument by state-level personnel with vocational teachers. This is the age-old problem of getting research findings into practice.

9) Studies to formulate innovation diffusion strategies among vocational teachers as a result of change orientation scores need to be conducted.

APPENDIX A

The Center
For RESEARCH AND LEADERSHIP DEVELOPMENT IN
Vocational and Technical Education

THE OHIO STATE UNIVERSITY
1900 KENNY ROAD
COLUMBUS, OHIO 43210

December 3, 1970

Dear

You are one of fifty vocational teachers in Ohio who has been nominated by teacher educators at The Ohio State University or by state supervisory personnel as a person who may cooperate in a Center research project. In your selection, it was felt that you could make a significant contribution to the project.

If you agree to perform the requested activities, *you will be paid a $25.00 honorarium.*

Briefly, we need your assistance in writing and later rating attitude statements to be used in an instrument. Phase I is the item writing stage and the materials needed for this activity are enclosed. Phase II materials for rating statements will be sent to you in mid January. Both phases combined should require four to five hours of your time. After completion of Phase II, the $25.00 honorarium will be mailed to you.

Because of the selectivity exercised in your nomination, it is hoped that you will be able to participate. If for any reason you cannot, please call me or Mrs. Sue Craft at 614-486-3655. Please call collect. This will permit us to contact an alternate without delaying the project schedule.

If at all possible, please complete and return the enclosed materials by December 11, 1970.

I shall look forward to your assistance and cooperation.

Sincerely,

Earl B. Russell
Research Associate

EBR:sc

54/55

PHASE I - INSTRUCTIONS FOR WRITING ATTITUDE STATEMENTS

For Phase I, you are asked to write a minimum of five statements in each of four topics of interest in vocational education. The four sheets containing those topics are marked "Assigned." Space is also provided for you to write additional statements which express any other thoughts you may have on the topic as you write statements.

Four other attached sheets are marked "Optional." These sheets describe topics on which you are not required to write. Since you will be rating statements in Phase II on all eight topics, please review each of these "optional" topics. If ideas for possible statements occur to you as you study these topics, please write them down in the appropriate spaces.

Before you begin, carefully study the sheet entitled "Guidelines for Writing Attitude Statements." You will find it helpful to refer to this sheet while you are writing and please evaluate and revise your final statements according to the twelve guidelines. It may be best for you to practice on scratch paper until you get a "feel" for writing the statements and to write your statements on the attached sheets in pencil. Make sure the statements you write are legible. Please print if necessary.

After reviewing the hypothetical example below and the attached sheet of guidelines for writing statements, please write your statements on each topic in the spaces provided.

EXAMPLE - - Attitude Toward High School Athletics

Continuum	Statements
Most unfavorable	1. I refuse to attend high school athletic contests.
Moderately unfavorable	2. I do not encourage my students to compete in high school athletics.
Neutral	3. I support high school athletic events if time is available.
Moderately favorable	4. I promote student participation in high school athletics the same as other school activities.
Most favorable	5. I regularly initiate class discussions of our school's athletic contests.

GUIDELINES FOR WRITING ATTITUDE STATEMENTS*

1. Avoid statements that refer to the past rather than to the present.

2. Avoid statements that may be interpreted in more than one way.

3. Avoid statements that are irrelevant to the attitude object under consideration.

4. Avoid statements that are likely to be endorsed by almost everyone or by almost no one.

5. Select statements that are believed to cover the entire range of the affective scale of interest.

6. Keep the language of the statements simple, clear, and direct.

7. Statements should be short, rarely exceeding 20 words.

8. Each statement should contain only one complete thought.

9. Statements containing universals such as *all*, *always*, *none*, and *never* often introduce ambiguity and should be avoided.

10. Words such as *only*, *just*, *merely*, and others of a similar nature should be used with care and moderation in writing statements.

11. Whenever possible, statements should be in the form of simple sentences rather than in the form of compound or complex sentences.

12. Avoid the use of words that may not be understood by those who are to be given the completed scale.

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*Adapted from Allen L. Edwards. *Techniques of attitude scale construction*. New York: Appleton-Century-Crofts, 1957, pp. 13-14.

___ Assigned
___ Optional

Topic A

REDUCING THE NUMBER OF UNDER-PREPARED PEOPLE ENTERING THE LABOR MARKET

Description - Because large numbers of people leave school without adequate preparation to enter the world of work, the Vocational Education Amendments of 1968 made the above topic a goal of vocational education. Vocational teachers contribute to the attainment of this goal in varying degrees by the nature of their instructional programs.

Write attitude statements below on the topic: REDUCING THE NUMBER OF UNDER-PREPARED PEOPLE ENTERING THE LABOR MARKET. Vocational teachers who respond to the statements will indicate their degree of agreement from "agree very much" to "disagree very much."

Continuum	Statements
Most unfavorable	1.
Moderately unfavorable	2.
Neutral	3.
Moderately favorable	4.
Most favorable	5.

Write extra statements below which may have occurred to you on this topic.

Most unfavorable	1.
Moderately unfavorable	2.
Neutral	3.
Moderately favorable	4.
Most favorable	5.

PHASE I

This card is to be filled in after you complete the attached materials.

Name Mr. / Mrs. / Miss (Circle) _____ (please print or type)

Dept. _____

School _____

Street or Route _____

City _____, Ohio _____ (zip code)

Telephone _____ _____ (area code)

I certify that I have completed the attached materials according to the instructions provided. I understand that I shall receive my $25.00 honorarium after I complete Phase II in January 1971.

Date _____ Signed _____

APPENDIX B

The Center For RESEARCH AND LEADERSHIP DEVELOPMENT IN
Vocational and Technical Education

THE OHIO STATE UNIVERSITY
1900 KENNY ROAD
COLUMBUS, OHIO 43210

December 31, 1970

Dear

Attached are the attitude statements which we would like for you to edit as we discussed in our telephone conversation a few days ago. Appropriately labeled sheets similar to those used by item writers are provided for you to use in re-writing the statements.

These statements were written by selected vocational teachers in Ohio utilizing Allen Edwards' guidelines for writing attitude statements plus the instructions on the topic sheets and example statements. A review of the statements reveals that a wide range in quality exists. It seems that some teachers relied too heavily on the examples, resulting in rather homogeneous statements.

Your task is to edit approximately eighty of these statements. The edited statements need to be appropriate for attitude scales for nationwide use. If you discover too much similarity among the statements or if you feel that some statements are completely inadequate, please write new statements. This is necessary to prevent shrinkage of the item pool.

You should carefully review Edwards' guidelines (blue sheet) before you begin to edit the statements. Unless you have had extensive experience in developing attitude statements, it may be easy for you to develop a mental set and fail to consider one or more vital guidelines; therefore, refer to them frequently. Please refer also to the examples of statements and response patterns in the enclosed instructions (green sheet) to further refine wording. *Please be sure your writing is easily legible. Print if necessary.*

Also, after you complete your editing assignment, fill in the five checked blanks on the two forms, "Certification of Services." *These completed forms will be used to process your $25.00 honorarium.*

If you have any questions, please call me or Mrs. Sue Craft at 614-486-3655. You may call collect. Please return *all* the enclosed materials as early as is practicable.

I will appreciate your assistance very much.

Sincerely,

Earl B. Russell
Research Associate

EBR:dh

Enclosures

62/63

INSTRUCTIONS FOR EDITING ATTITUDE STATEMENTS

Teachers who wrote the attitude statements probably have had no professional preparation in developing attitude scales. Therefore, it was desirable to encourage them to generate ideas from teachers' perspectives without rigorous requirements for technical adequacy of attitude statements.

Your expertise is needed to "build in" the technical adequacy. Edit each of the attitude statements which is not marked out in red. Depending on the topic on which you are editing statements, refer to the appropriate exhibit for refining wording. View each statement from the perspective of a teacher who will be asked to respond as shown below.

EXHIBIT A - - Topics A, B, and C *only*
(Statements need not be written in the first person.)

Today's graduates of vocational programs are well-prepared to enter the labor market.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree

EXHIBIT B - - Topics D, E, F, G, and H *only*
(Statements should be written in the first person.)

The best I can do with a class of high- and low-ability students is to keep instruction at a moderate pace.

a. Strongly agree
b. Agree
c. Disagree
d. Strongly disagree

APPENDIX C

The Center For RESEARCH AND LEADERSHIP DEVELOPMENT IN
Vocational and Technical Education

THE OHIO STATE UNIVERSITY
1900 KENNY ROAD
COLUMBUS, OHIO 43210

March 10, 1971

Dear

Enclosed are the Phase II materials for you to rate attitude statements as mentioned in my earlier letter. Your $25.00 honorarium for participating in this project will be issued upon your completion of the enclosed materials later this month.

The final task involves the rating of many of the attitude statements which you assisted in writing in Phase I. Your ratings will determine the attitude statements to be used in this project. We then will submit those statements to a group of vocational teachers throughout the United States in mid April.

A number of unanticipated delays have forced alterations in the project schedule. In order for your materials to be usable within our pressed schedule, we must have your completed ratings *postmarked by no later than Monday, March 22.* Carefully review the enclosed materials immediately to see if you have any major questions. If so, please call me or Mrs. Sue Craft at once at 614-486-3655. Please call collect.

Please follow the enclosed instructions carefully, being sure not to omit any items. Then fill out the Certification of Services form in the four checked blanks so that we may issue your check.

I appreciate your excellent assistance and cooperation. Your promptness in returning the rated statements will be matched by my promptness in getting your check sent to you!

Sincerely,

Earl B. Russell
Research Associate

EBR:sc

Enclosures

66/67

INSTRUCTIONS TO JUDGES RATING ATTITUDE STATEMENTS

The Center is developing an instrument to measure the attitudes of vocational teachers toward eight specified topics. Your assistance is needed in rating attitude statements on a seven point scale to indicate the degree you think each statement is favorable or unfavorable toward the given topic. We are not interested in your own degree of agreement or disagreement with the statements.

Procedure

Match each enclosed sheet of attitude statements with the appropriate mark-sensitive sheet. Check to see that the page numbers on the upper righthand corner of each page correspond, as well as topic headings and statement numbers.

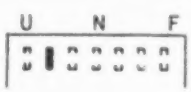
USE PENCIL ONLY (a Number 2 is preferred) in marking the rating sheets. Make all erasures complete. Only one black mark may appear for each statement.

Read each statement and judge where it belongs on the seven interval scale ranging from extremely favorable to extremely unfavorable toward the topic. Place a heavy mark in the first interval (U = unfavorable) if the statement indicates an extremely unfavorable attitude, interval four (N = neutral) if it appears neutral, last interval (F = favorable) if it indicates an extremely favorable attitude, or in one of the other intervals representing the judged degree of favorableness.

Example

Below is an example of an attitude statement regarding Cooperative Education.

I caution students not to expect too much from cooperative education.



The judge marked the second interval to indicate that the statement appeared to approach the extremely unfavorable interval. (Note that the statement is unfavorable toward cooperative education regardless of whether one agrees or disagrees with the statement.)

Reminder

We are not interested in your personal attitude. We do want your judgment of how favorable or unfavorable each attitude statement is toward the given topic. Please rate every statement. If you have difficulty deciding on a rating, make a quick guess and go to the next statement.

PLEASE NOTE: No marks should be made in the horizontal boxes at the top of each mark-sensitive sheet. Those spaces will be used for computer coding.

TOPIC A -- REDUCING THE NUMBER OF UNDER-PREPARED PEOPLE ENTERING THE LABOR MARKET

1. The major responsibility for preparing students better for the world of work rests particularly upon vocational education courses in public schools.
2. Expanding vocational education offerings won't noticeably reduce the number of under-prepared people entering the labor market.
3. Vocational education should be encouraged if a person chooses it.
4. I am active in explaining the advantages of vocational and technical education to the student body in my school.
5. I initiate school-wide activities and publicity to encourage students to acquire employment skills.
6. Vocational education reduces the number of dropouts, thus reducing the number of under-prepared people seeking work.
7. Many more students need to develop positive attitudes toward work through vocational education.
8. I will wait and see what effect the funds being spent on vocational education has before I support it for more students.
9. A basic purpose of education should be to expose students to the world of work.
10. Working actually prepares people for work so vocational courses should not be expected to accomplish such a task.
11. Preparing students for the world of work is unrealistic for the vocational teacher.
12. My instruction is geared to providing the special preparation needed in many occupations in my field.
13. Even students planning to enter professional fields should be required to have a saleable skill before high school graduation.
14. Schools are largely responsible for the large numbers of under-prepared graduates entering the world of work.
15. I inform the guidance counselor of students who I feel would profit more from vocational courses.
16. A vocational survey course should be requested of students early in high school.
17. I don't know any under-prepared people entering the labor market.
18. Vocational teachers should do much more to better prepare people for entry in the labor market.
19. Some form of occupational education is good for students.
20. Vocational education can have some impact on providing more competent people for the work force.
21. Vocational education offerings should be some part of the curriculum of most secondary school students.
22. Skilled workers without jobs sometimes cause me to seriously doubt the value of vocational education.
23. I doubt if the proportion of poorly prepared people entering the labor market today is any worse than it was fifty years ago.
24. The problem of under-prepared people entering the labor market is not widespread today.
25. Vocational education is nowhere near its potential for preparing young people to enter the labor market.

TOPIC A -- REDUCING THE NUMBER OF UNDER-PREPARED PEOPLE ENTERING THE LABOR MARKET

26. I argue that nearly all secondary students should be on some type of work-study program at some time.

27. I contend most students planning to attend college should take some vocational education.

28. We as vocational teachers should help many more people prepare to enter the labor market than we do presently.

29. I believe recent changes in vocational programs can reduce the number of potential dropouts.

30. Preparing more people to enter the labor market should be a primary function of vocational education.

31. I feel most students should concentrate mainly on academic course work.

32. Today's vocational programs are quite successful in preparing students for employment.

33. Adequate preparation for employment should be acquired by attending technical schools after high school graduation.

34. Vocational education should explore "the world of work" more thoroughly to better prepare students for job entry.

35. Vocational students get prepared to work if they want to.

36. Investigating the preparation needed for anticipated occupations is little more than a mental exercise for vocational students.

37. I am already doing all I can to prepare my students for entering the labor market.

38. Schools can't do much to develop positive attitudes toward work.

39. Vocational education is too expensive to offer to large numbers of students.

40. Occupational preparation should be a part of the "total" education of the college preparatory student.

41. Vocational education may be extremely valuable to students who find other school programs meaningless.

42. I inform my students about the special preparation needed to enter various occupations.

43. Today's young people cannot be made to realize the need for a marketable skill.

44. The labor market changes so rapidly, it's hardly worth the vocational teacher's effort to anticipate the future.

45. I refuse to assume responsibility for unemployed young people who lack initiative.

46. I believe it is useless to try to help students who are predestined to failure.

47. Under-prepared people can acquire needed skills once they are in their first job.

48. Students should be allowed to leave school without graduating when they can get a job.

49. Many vocational students are learning skills which may be in little demand in today's labor market.

50. I regularly investigate the new skills and occupations in the labor market to update my courses.

TOPIC A -- REDUCING THE NUMBER OF UNDER-PREPARED PEOPLE ENTERING THE LABOR MARKET

51. I try to guide as many students as possible who are not enrolled in vocational courses toward setting employment goals for themselves.

52. Vocational education is flooding the labor market.

53. Vocational education needs a fundamental overhauling to help reduce welfare rolls.

54. Secondary school graduates are better prepared for employment when their education is vocational in nature.

55. Present vocational education programs are adequate.

56. Being under-prepared for the labor market results from low motivation rather than lack of opportunity for vocational instruction.

57. Preparing people for the labor market is really the responsibility of employers.

58. I don't expect my students to be very well prepared for our complex labor market.

59. The number of under-prepared people entering the labor market is reduced through vocational education.

60. I believe that there will always be a need for unskilled workers in the labor force.

TOPIC B -- MEETING THE SPECIAL NEEDS OF DISADVANTAGED STUDENTS

1. Vocational education for disadvantaged students is a necessity if these students are to become useful citizens.
2. Vocational education is vital for job success of the disadvantaged.
3. Other available avenues for meeting the special needs of the disadvantaged are as good as vocational education.
4. Disadvantaged students should receive a majority of their vocational training in skill centers outside the school.
5. Vocational training for the disadvantaged must wait until regular vocational programs are strengthened.
6. Vocationally oriented programs for the disadvantaged should not receive funding preference over other vocational programs.
7. The problems of disadvantaged students are too complex for vocational education to overcome.
8. I have no desire to teach disadvantaged vocational students.
9. Vocational education programs for the disadvantaged child are low on my priority list.
10. Vocational education can do much to improve the opportunities of disadvantaged children.
11. The vital job of providing vocational preparation for disadvantaged students is often overlooked by vocational teachers.
12. If a disadvantaged student is interested in vocational education I can help him.
13. Special education programs in vocational education do little, if any good for the disadvantaged person.
14. It takes so much time to work with disadvantaged students that regular students aren't challenged to perform well.
15. Public schools have all they can do to meet the needs of normal children.
16. Special programs of instruction in vocational education for the disadvantaged should be required of schools.
17. We need many more vocational programs for disadvantaged students.
18. Vocational education for disadvantaged students could be successfully implemented in almost any school.
19. I adjust my curriculum especially to meet the needs of disadvantaged students.
20. Present vocational programs are adequate for most disadvantaged students.
21. Considering the many problems facing education, meeting the vocational education needs of the disadvantaged is a moderate problem.
22. Some disadvantaged students could learn as well or better at home than at school.
23. The large percentage of average students in my vocational program compels me to give them most of my attention.
24. We now have more vocational programs than we need for the disadvantaged.
25. If we do not enact vocational education programs for the disadvantaged, it will cost us many times more in the future.

TOPIC B -- MEETING THE SPECIAL NEEDS OF DISADVANTAGED STUDENTS

26. Of the disadvantaged students I encounter, most of them would benefit from a vocational education program.

27. If I had the opportunity, I would train to teach the disadvantaged.

28. Vocational education for the disadvantaged could work with the right kind of instructors.

29. Vocational education can do little to alleviate the problems of disadvantaged people.

30. Disadvantaged students should receive the same vocational preparation as other students without emphasis on handicaps.

31. A student must first be able to think and work for himself before I can help him.

32. I spend a lot of time making sure my courses meet the special needs of disadvantaged students.

33. Some type of vocational education for disadvantaged people should be offered whenever possible at the various levels of public education.

34. The problem of vocational education for the disadvantaged child is not crucial.

35. Labor market demands prohibit me from providing vocational training for disadvantaged students.

36. It is not practical for vocational education to try to meet the special needs of disadvantaged students.

37. I lack the patience to work with disadvantaged students.

38. Vocational programs for the disadvantaged are doomed to failure.

39. For the disadvantaged student, vocational education is much more important than general or academic courses.

40. We must realize that a few disadvantaged students cannot be trained for a job.

41. Vocational programs for the disadvantaged require more teachers than can be justified.

42. Vocational education programs might as well not exist if we can not help the disadvantaged.

43. Disadvantaged students need vocational education more than any other group of students in public schools.

44. I make a special effort to recruit vocational students who lack college potential.

45. I plan class activities especially to meet the needs of disadvantaged students.

46. Vocational education tailored to meet the special needs of disadvantaged students is a good idea.

47. Disadvantaged people who are helped by special vocational programs may justify the expense and effort.

48. Special vocational programs can do little to help a child from a low socioeconomic family until his home atmosphere is improved.

49. Students with various disadvantages are too difficult to teach.

50. Vocational education for the disadvantaged can greatly augment a student's self-respect.

TOPIC B -- MEETING THE SPECIAL NEEDS OF DISADVANTAGED STUDENTS

51. Vocational education to enable a disadvantaged student to get a job may give him a sense of dignity.

52. Most disadvantaged students do not work hard enough to benefit from vocational programs.

53. Disadvantaged persons must receive vocational education, even at the expense of regular vocational programs.

54. Society imposes a moral obligation on us to provide vocational education to disadvantaged students.

55. Vocational programs for the disadvantaged are already sufficient.

56. I avoid teaching those who show little ambition and promise.

57. We can never do too much for disadvantaged students.

58. Vocational education can help disadvantaged students who consistently fail in other subjects.

59. Vocational courses have the same responsibility to meet the needs of the disadvantaged as do other courses.

60. I feel that special education has no place in vocational education--they are two kinds of education.

TOPIC C -- BEGINNING PREPARATION FOR EMPLOYMENT AT AN EARLIER AGE

1. Beginning preparation for employment in the elementary grades is absurd.
2. Students can benefit little from occupational education in the elementary grades.
3. I think there's no harm in starting occupational preparation for young school children.
4. Occupational education in elementary schools is absolutely essential for a comprehensive curriculum.
5. Occupational education would provide incentive and purpose to elementary school pupils.
6. An excellent way to create desire among students to work is by providing study of occupations at the earliest possible time.
7. Positive vocational attitudes must be established at the earliest possible age.
8. Introduction to types of vocations in elementary school gives students time to develop great interest in a vocational choice.
9. Occupational education in elementary school would be a misuse of teachers' time and taxpayers' money.
10. Elementary students are too young to be concerned with vocational problems.
11. Elementary school pupils are better off studying broad subject areas than studying the "world of work."
12. Only superior elementary students could benefit from occupational education.
13. Elementary students regardless of ability level should be given an overall view of the world of work.
14. I encourage elementary teachers to introduce their students to the world of work.
15. Occupational education would open the eyes of elementary students to an interesting new world.
16. I am opposed to pushing career education into the early grades.
17. I discourage students from exploring a world of work in which they are too young to participate.
18. I maintain that occupational education for students who are too young to be employed is seldom effective.
19. One method of increasing some children's chances in life might be to offer occupational preparation at an earlier age.
20. Earlier school preparation for employment will in the long run upgrade the nation's work force.
21. I help provide occupational study in the elementary grades in my school system.
22. Studying occupations in elementary school would help students make more sense of high school.
23. A cure for high unemployment in the future is to begin occupational education in the elementary years.
24. Preparation for employment at an early age limits students' job perspectives.
25. Early occupational education may stimulate a better attitude toward school work in later years.

TOPIC C -- BEGINNING PREPARATION FOR EMPLOYMENT AT AN EARLIER AGE

26. Occupational education should be provided in elementary schools by knowledgeable teachers.

27. Vocational teachers can make a real contribution to occupational education at the elementary level.

28. The number of children who would benefit from occupational preparation at an earlier age is small.

29. Teachers have a responsibility to provide occupational education to elementary school students.

30. Primary and intermediate pupils are too young to comprehend occupational education.

31. I believe students would be harmed more than helped by occupational education at an early age.

32. Early occupational education would detract from the students' desire to study his basic courses.

33. I believe basic courses are more valuable for elementary students than occupational education.

34. I make it a point to discuss vocational possibilities with elementary students.

35. Students could begin studying occupations at the lower grade levels.

36. I approve of occupational education being incorporated into the school curriculum for all age groups.

37. Whenever possible, elementary students should be encouraged to think about their future occupation.

38. I encourage elementary student exploration in many areas of occupational education.

39. On the whole, elementary students are unable to benefit from occupational preparation.

40. I am convinced that students need to learn the three R's well before starting occupational education.

41. There is no need in the elementary curriculum for the addition of occupational education.

42. Beginning earlier preparation for employment is a problem for the guidance department and not vocational education.

43. Occupational education for elementary students will have little effect since jobs change so rapidly.

44. The ratio of comprehension to teaching effort in occupational education is not worth it in the elementary grades.

45. Students need to begin as early as primary school to learn about earning a living.

46. Occupational preparation at an earlier age is necessary for equalizing educational opportunity.

47. Time devoted to studying occupations in elementary schools could be better used for other subjects.

48. I am open to permitting elementary students to visit my vocational classes.

49. Students from every background need early encouragement to learn about work.

50. Learning about different occupations could be very exciting for elementary students.

TOPIC C -- BEGINNING PREPARATION FOR EMPLOYMENT AT AN EARLIER AGE

51. Without possibility of early employment, occupational education in elementary school is unsound.

52. I doubt that earlier preparation or employment would influence a person's employability.

53. Some type of occupational education might be helpful to elementary students.

54. Beginning occupational education in the elementary grades should grow out of identified community needs.

55. Early occupational education may create desire to work and learn.

56. I see some need for lowering the age at which a student begins occupational preparation.

57. I hope to learn more about occupational education for elementary schools.

58. Preparation for employment needs to be part of the K-12 curriculum.

59. I assist elementary administrators in developing appropriate occupational programs.

60. I strongly support efforts to establish occupational education in the elementary school curriculum.

TOPIC D -- COOPERATIVE EDUCATION

1. I oppose programs which pay students to learn.
2. I recognize that cooperative education may serve the needs of some vocational students.
3. I insist that cooperative education is a superior way to provide student work experience.
4. I favor cooperative education because it provides a smooth transition from school to work.
5. I consider classroom experience superior to on-the-job experience during the high school years.
6. I would not recommend cooperative education to students interested in a college degree.
7. I counsel with students about part-time work.
8. I give my students an opportunity to choose regular vocational courses or cooperative education.
9. I conduct cooperative education as a means of developing desirable work attitudes which students cannot acquire in school.
10. My students get a greater variety of experience on the job than in classroom courses.
11. I find that students who accept job responsibilities are more eager to accept classroom responsibilities.
12. I promote cooperative education especially hard for those students in need of financial assistance.
13. I sidestep cooperative education since it is so difficult to supervise and control.
14. I object to cooperative education because it creates more problems than it solves.
15. I refuse to place a student in a job because the employer's supervision often contradicts my instruction.
16. I find students who enroll in cooperative education courses are just interested in getting away from school.
17. I support a program of cooperative education in any vocational education curriculum.
18. I find that students can learn well either at school or on a co-op job.
19. I spend a lot of time telling others that cooperative education bridges the gap between the classroom and the labor market.
20. I provide a list of prospective cooperative employers to my students to encourage occupational decision-making.
21. I fear that many students may be misled by cooperative education and quit school for a full-time job.
22. I would allow my children to enroll in cooperative programs if they were not inclined to attend college.
23. I work closely with students and employers to insure that necessary learning takes place in the cooperative education program.
24. I provide enough school experiences to eliminate the need for students to work on-the-job.
25. I refuse to have students in cooperative education programs.

TOPIC D -- COOPERATIVE EDUCATION

26. I spend a lot of time wondering how well cooperative education students learn by doing.

27. I view cooperative work experience for high school students as an incentive to quit school.

28. I encourage my students to have jobs in order to make wise career choices.

29. I prefer student participation in the cooperative education program over other school activities.

30. I sidestep cooperative education because more time is needed for instruction at school.

31. I insist that instruction at school and job training do not mix.

32. I resist cooperative education because diverse employment situations make it too hard to evaluate.

33. I contend that relating classroom instruction to the students' jobs makes discussion come alive for students.

34. I do my most effective teaching in a cooperative education program.

35. I support cooperative education as the most positive form of vocational education.

36. I discourage participation in cooperative education unless the student can maintain a decent grade point average.

37. I allow my students to hold jobs in a cooperative education program.

38. I find that employers aid greatly in educating students.

39. I regard the classroom and laboratory as the most practical sources of learning for my vocational students.

40. My students learn more at school under close supervision than they do with employers.

41. I look upon cooperative education programs as simply free employment agencies.

42. I contend that cooperative education aids certain students but not others.

43. I advocate cooperative education in schools that do not offer it.

44. I oppose cooperative education because students get specialized too soon.

45. I view cooperative education as a terrific waste of time for above average students.

46. I oppose cooperative education programs because they put an unfair burden on the employer.

47. I enjoy helping students find suitable training stations for a cooperative education program.

48. I promote cooperative education as a means of helping potential dropouts stay in school.

49. I argue that cooperative education optimizes what a school can do for students.

50. I maintain that cooperative education students will acquire renewed interest in school.

TOPIC D -- COOPERATIVE EDUCATION

51. I expect my students to participate in cooperative education programs.

52. I tell others that the money necessary for cooperative education programs would be better invested elsewhere.

53. I find that vocational education students cause too many problems for employers for me to conduct a cooperative program.

54. I frown upon cooperative education because college bound students are often enticed to abandon their college plans.

55. I assume responsibility for some student work experience if it does not interfere with other school subjects.

56. I limit student work experience to after-school hours.

57. I find that cooperative education helps some of my students adjust to employment after graduation.

58. I regard cooperative education as the most effective aspect of vocational programs.

59. I conduct cooperative education on the premise that the best way to learn the job is to do it.

60. I encourage students to work part-time in a job related to their anticipated occupation.

TOPIC E -- INDIVIDUALIZATION OF INSTRUCTION AND BEHAVIORAL OBJECTIVES

1. I grade projects not by comparing them to an ideal one, but by determining how well a student has worked up to his potential.
2. I prefer to use programmed instruction when I individualize my teaching.
3. I maintain strict classwide criteria for grading.
4. I endorse a program of individualized instruction using behavioral objectives to help the student meet his needs.
5. I try to help each student decide what level of work he can expect to achieve--then I try to help him achieve it.
6. I find that individualizing instruction in behavioral terms causes slower students to feel inferior.
7. I find that without individual instruction using tailor-made behavioral objectives many students would be lost.
8. I use many teaching methods that are as effective as individualized instruction.
9. I find individualized instruction when the student expresses his desire for help.
10. I expect each of my students to learn the same amount during the available time.
11. I expect my students to accept set learning objectives regardless of their own petty desires.
12. I advocate the notion that individual student needs are not the basis of good vocational instruction.
13. I provide learning experiences for each student's needs by setting performance standards according to his capabilities.
14. I usually try to set aside time in each class for individual instruction.
15. I write behavioral objectives if I need to clarify my lesson plans.
16. I find it impossible to adapt subject matter to fit each student.
17. I insist that determining behavioral objectives for each student is out of the question.
18. I avoid letting myself become "bogged down" writing behavioral objectives for each student.
19. I plan for variations in student performance as each unit of work is assigned.
20. I agree that students should be taught so they can learn at their own rate.
21. I avoid predicting what each student shall be able to accomplish when he finishes my course.
22. I question the need for using individualized instruction and behavioral objectives.
23. I find that individualized instruction using behavioral objectives is valuable in helping the student succeed.
24. I try to give each student some individualized instruction, using behavioral objectives to determine success.
25. I see no practical way of determining individual student needs and performance capabilities.

TOPIC E -- INDIVIDUALIZATION OF INSTRUCTION AND BEHAVIORAL OBJECTIVES

26. I contend that individual instruction and behavioral objectives are complementary teaching techniques.

27. I contend that every student in a given vocational course should receive the same instruction.

28. I assume responsibility for how well each of my vocational students performs on the job and in the classroom.

29. I determine individual behavioral objectives for my vocational students.

30. I contend that my students can perform certain job competencies as a result of their tested individual performance.

31. Using behavioral objectives for each student sometimes alerts me to questionable teaching practices.

32. I object to the idea that it is fair to require more of some students than of others.

33. I meet individual needs by helping each student perform tasks at his ability level.

34. I modify behavioral objectives so that each student in my vocational classes can achieve them.

35. I contend that individualized instruction using behavioral objectives is asking too much of the vocational teacher.

36. I concentrate on each vocational student's areas of strength in teaching him.

37. I relate individual needs through classwide instruction.

38. I give some individualized instruction when the student expresses his desire for help.

39. I tell my students they must keep pace with the class if they are to cope with the realities of life.

40. I oppose behavioral objectives for each of my students because it is impossible to measure their success.

41. I see no purpose in determining a student's present needs to teach a vocational education course geared to future needs.

42. I'm convinced individualized instruction using behavioral objectives should be used in my classroom instruction.

43. I agree that all students don't learn at the same rate and should be taught accordingly.

44. Behavioral objectives provide direction to individual learning activities in my classes.

45. I find individualized instruction using behavioral objectives benefits only a few students in the class.

46. I promote the writing of behavioral objectives for each vocational student.

47. I prefer not to set up precise behavioral objectives for each of my students.

48. I find that individualized instruction is based on the false assumption that students have needs they can verbalize.

49. I believe it is more important to work with the entire class than to spend a lot of time with individuals.

50. I insist that learning is so individual that no two students should be expected to perform the same way.

TOPIC E -- INDIVIDUALIZATION OF INSTRUCTION AND BEHAVIORAL OBJECTIVES

51. I teach every student the same way because it has worked well for years.

52. I accept the idea that individualized instruction using behavioral objectives allows students to experience success more often.

53. The best I can do with a class of high- and low-ability students is to keep instruction at a moderate pace.

54. I conduct an individualized vocational program in which a student performs at his own rate.

55. I prepare assignments to fit each student's ability to perform them.

56. Stating behavioral objectives for each student sometimes alerts me to questionable teaching practices.

57. I realize attempts should be made to combine behavioral objectives with individualized instruction for each unit to be taught.

58. I find that I can give some individual attention during group instruction.

59. I regularly use behavioral objectives with individualized learning experiences to help my students develop their potential.

60. I discourage other teachers from spreading themselves too thinly by teaching all students individually.

TOPIC F -- ADULT EDUCATION

1. I find that adults in vocational classes refuse to heed my advice.
2. I say adult education is not the business of the high school vocational teacher.
3. I would consider adult vocational education as a problem area of moderate importance.
4. I am convinced that adult education is essential for a balanced vocational program.
5. I initiate new courses for adults whose present vocational skills are obsolete.
6. I find there is a certain demand for untrained, uneducated people.
7. I discourage school officials from supporting adult education programs.
8. I consider teachers in high school too far removed from adults to help retrain them.
9. I support the concept of continuing vocational education for adults.
10. I support adult education in my vocational area when another person is responsible for the instruction.
11. I find teaching adults very stimulating.
12. I look on adult vocational education as more of a burden than an opportunity for the teacher.
13. I refuse to waste my efforts in training adults who have a history of unemployment.
14. I find teaching vocational courses to adults a complete waste of time.
15. I'm willing to work to up-date vocational education for adults.
16. I take the initiative to retrain people displaced by scientific advances.
17. I consider adult vocational education as a problem area of moderate importance.
18. I receive more satisfaction from teaching adult classes than from any of my other classes.
19. Adult education is a top priority item in my teaching schedule.
20. I encourage adults in my community to continue their education.
21. I contend that adult education belongs in the private trade school or industry.
22. I oppose public education beyond the post-secondary level.
23. I teach vocational classes for adults if asked to do so by supervisors.
24. I assume responsibility for recruiting adults for vocational education.
25. I insist that employers must bear the responsibility for training and retraining adults.

TOPIC F -- ADULT EDUCATION

26. I find there is little need for adult vocational classes in my community.

27. I find that adult education for employed adults is of little benefit.

28. I initiate programs of adult training and retraining within the framework of my present schedule.

29. I often wish we had more evidence of the need for vocational education for adults.

30. I carry out adult vocational education as a vital part of the total program I conduct.

31. I feel adult education should not be a part of a public school system.

32. I recognize adult education as a part of the total vocational education program.

33. I consider adult vocational education an essential step toward combating unemployment.

34. I insist that it is important to have untrained, uneducated adults to perform menial tasks--someone has to.

35. I regularly promote and teach vocational classes for adults.

36. I encourage adults to take vocational courses regularly to keep up to date.

37. I enjoy conducting adult vocational classes.

38. I say forget vocational classes for adults--you can't teach an old dog new tricks.

39. I argue strongly that adults need up-dating in their occupational skills.

40. I'm convinced that adult education is a crucial need in today's vocational education programs.

41. I contend that vocational education for adults is a fallacy--adults who get it need it the least.

42. Teaching adults keeps me up-to-date with today's world of work.

43. I refuse to teach adults who did not care to learn when they were students.

44. When I can find the time I enjoy working with adults.

45. I favor adults learning through their own efforts.

46. I support adult education if it is compatible with other vocational training programs.

47. I find that few adults are willing to attend adult vocational classes.

48. I favor adult education programs being conducted by some other agency rather than by vocational educators.

49. I find that too few adults are interested in vocational courses to justify their being offered.

50. I promote adult participation in vocational education programs.

TOPIC F -- ADULT EDUCATION

51. I conduct adult vocational education in my community.

52. I often wish the public realized that vocational courses for adults are a privilege and not a right.

53. I find that training programs for adults are usually provided by industry.

54. I promote the extension and modernization of adult vocational education with administrators in my school.

55. I argue that increased emphasis on adult vocational programs would eventually reduce inner-city unemployment.

56. I avoid teaching adult courses--my other teaching is a full-time job.

57. I sidestep adult vocational education as my responsibility.

58. I find that adults have a greater desire to learn than younger students.

59. I encourage adults to take special vocational courses to help them compete in changing jobs.

60. It doesn't disturb me that some of my adult education students are interested in avocational skills.

TOPIC G -- TEAM TEACHING AND DIFFERENTIATED STAFFING

1. I consider differentiated team teaching as an unworkable method of instruction.
2. I lack enough information about differentiated team teaching to make a decision for or against it.
3. I wholeheartedly endorse the use of differentiated teaching teams to provide the best instruction collectively possible.
4. My time is too limited to be bothered by exploring the possibilities of differentiated team teaching.
5. I contend that team teaching encourages teachers to avoid improvement in their areas of weakness.
6. Combined with the ideas of others on a differentiated teaching team, my teaching would be more creative.
7. I find that planning as a member of a teaching team is no more time consuming than planning for regular teaching.
8. I am most effective with students when teaching with a differentiated team.
9. I doubt that differentiated team teaching is as good as older, proven methods.
10. I plan to remain the only teacher responsible for the instruction of my classes.
11. I agree to differentiated team staffing in vocational areas where my knowledge is limited.
12. I'm convinced the cooperation of "teaching specialists" in a team would produce a superior type of education.
13. As part of a teaching team I could spend more time developing creativity, responsibility, and habits of inquiry in students.
14. I promote differentiated team teaching since it gives me more freedom to work on my speciality.
15. I would benefit from having teaching assistants available to help me.
16. Differentiated team teaching stifles my creativity in the classroom.
17. I like to participate in differentiated team teaching discussions in in-service education meetings.
18. I am unable to keep current enough in my field to teach effectively in the specialized areas.
19. I am capable of teaching my students without assistance.
20. I find there is too great a tendency for teachers to "pass the buck" in differentiated team teaching situations.
21. I can function as well as a member of a differentiated teaching team as I can teaching alone.
22. I teach my classes without assistance and discourage others from helping.
23. I find it too difficult to coordinate my teaching with other teachers.
24. I advocate being a member of a differentiated teaching team.
25. I like differentiated team teaching if the special skills needed are available.

TOPIC G -- TEAM TEACHING AND DIFFERENTIATED STAFFING

26. I contend that a teaching assistant could do my "busy work" and relieve me to teach more effectively.

27. I would greatly dislike being a member of a differentiated teaching team.

28. Team teachers with different philosophies than mine would confuse students.

29. I support team teaching for other teachers who are not as set in their ways as I am.

30. I try to use the best skills of people who can contribute to the learning of my students.

31. I uphold the differentiated team teaching concept as permitting a natural exchange of ideas.

32. Differentiated team teaching enables me to capitalize on my special interests and abilities.

33. I object to differentiated team teaching because it produces status hierarchies among team members.

34. I do not work well enough with others to make differentiated team teaching work.

35. I would agree to differentiated team teaching if given proper assistance.

36. I would participate in differentiated team teaching if it were implemented by my school system.

37. I insist that differentiated team teaching has fewer advantages than traditional instruction.

38. I refuse to take the initiative in developing a differentiated teaching team in my school.

39. I contend that variety in teaching personalities on a differentiated team would increase pupil learning.

40. I contend that differentiated team teaching provides excellent experience for teachers.

41. I argue that the traditional method of teaching is not as effective as differentiated team teaching.

42. I plan to teach my own classes in my own way.

43. I'm uncomfortable with another staff member present while I am teaching.

44. I find that team teaching and differentiated staffing produce the same results as individual teaching.

45. I may participate in differentiated team teaching if it allows me to teach in depth about the area in which I am best.

46. I argue that differentiated team teaching enhances the professional development and growth of the team members.

47. I enjoy having other teaching team members assist me in developing lesson plans.

48. I have too little individual contact with my students using the team teaching method.

49. I cherish independence too much to successfully share my classes with another vocational teacher.

50. When teaching help is available in certain specialized areas I use it.

TOPIC G -- TEAM TEACHING AND DIFFERENTIATED STAFFING

51. Team teaching would require too much of my time in planning and curriculum revision.
52. I permit others to work with my students under my close scrutiny.
53. I advocate a differentiated team teaching situation in my school system.
54. I'm convinced that differentiated team teaching is a waste of time.
55. I support differentiated team teaching if other teachers are willing to help.
56. I desire to be a member of a differentiated teaching team.
57. I believe the student benefits much more when differentiated staffing and team teaching are used.
58. Use of differentiated team teaching would allow me to put more varied content into my lessons.
59. I say that differentiated team teaching is asking too much of established teachers.
60. I encourage others to try the differentiated team approach to teaching.

TOPIC H -- CORE VOCATIONAL CURRICULA

1. I insist on a core vocational curriculum to give my students a solid basis for their career choice.
2. I highly recommend a core vocational curriculum to high school students, regardless of their career objectives.
3. I will encourage a student to enroll in a core vocational curriculum when it is appropriate.
4. I can't cope with the extreme variability of student interests and abilities in core vocational courses.
5. I don't expect students to gain much from a core vocational curriculum.
6. I regard the core vocational curriculum as a university professor's impractical idea.
7. I support the association of students of potentially diverse occupations in core vocational courses.
8. It would be difficult for me to teach a core vocational course without slanting it toward my specialty.
9. I find that a core vocational curriculum is not well-focused on the needs of the individual.
10. I argue that a core vocational curriculum would help students broaden their interests beyond their particular vocational area.
11. I consider the merits of a core vocational curriculum worth studying.
12. With a core vocational curriculum I find students have a better background for my specialized classes.
13. I contend that the core concept of a vocational curriculum should be put into general use.
14. I contend the core vocational curriculum is desirable for most vocational students.
15. I maintain that evidence supports the core vocational curriculum.
16. I insist on a well-developed core vocational curriculum as a basis for specialized occupational programs.
17. Teaching in a core vocational curriculum, I could foster better cooperation and understanding in the school.
18. I advocate that a core vocational curriculum be required of high school students regardless of plans after graduation.
19. I advocate that the core vocational curriculum concept be studied on an experimental basis in my school.
20. I suspect a core vocational curriculum would be a bore to most students.
21. I encourage my students to take specialty vocational courses instead of a core vocational curriculum.
22. A core vocational curriculum would allow me to be a more effective teacher.
23. I contend that under some circumstances a core vocational curriculum may be workable.
24. I campaign against core vocational courses at faculty meetings.
25. I favor some vocational courses being combined into a core curriculum.

TOPIC H -- CORE VOCATIONAL CURRICULA

26. I prefer to put emphasis on obtaining the skills and knowledge necessary for a group of related occupations than on "common" knowledge.

27. I insist that each student take a core vocational curriculum so other instruction will make more sense.

28. I consider a core vocational curriculum to be a hodgepodge of meaninglessness.

29. I oppose movements to establish a core vocational curriculum at my school.

30. With a core vocational curriculum in operation, I can increase the quality of my specialized courses.

31. I encourage the vocationally undecided student to take a core curriculum.

32. I encourage core vocational courses when other vocational teachers assume the instructional responsibility.

33. I would teach core vocational subjects if required.

34. I fail to see the importance of initiating a core vocational curriculum.

35. I recognize that some vocational concepts can be taught to all vocational students.

36. I suspect the content of a core curriculum is taught better through specialized vocational courses.

37. I suspect a core vocational curriculum would present a general overview with little value to students.

38. I support the concept of a core vocational curriculum for some students.

39. I see no common knowledge, attitudes, and skills needed by all students in vocational education.

40. I see vocational education's responsibility as providing rather specific skills needed for particular occupations.

41. I encourage students to begin their vocational program in a core curriculum.

42. I find that the core vocational curriculum facilitates more efficient use of time, space, and personnel.

43. I encourage development of a core vocational curriculum as a fresh approach to old problems.

44. I prefer to set up an occupational area program rather than to put a student in a core vocational curriculum.

45. I discourage a core vocational curriculum for students interested in specific occupational areas.

46. I actively participate in developing a core vocational curriculum for my school.

47. I advocate that vocational students, regardless of occupational area, should take a core vocational curriculum.

48. I lack awareness of the advantages and disadvantages of a core vocational curriculum.

49. I consider it likely that a core vocational curriculum could help a vocationally undecided student.

50. I won't make my students waste their time in a core vocational curriculum.

TOPIC H -- CORE VOCATIONAL CURRICULA

51. I won't allow a core vocational curriculum to detract from mastery of knowledge and skills basic to my service area.

52. I find that conventional approaches are better than the core vocational curriculum.

53. I encourage a basic vocational background as much as skill in a specific occupational area.

54. I support the notion of a core vocational curriculum to make vocational education more generalizable.

55. I am more interested in teaching the skills for a specific group of occupations than in providing a core curriculum.

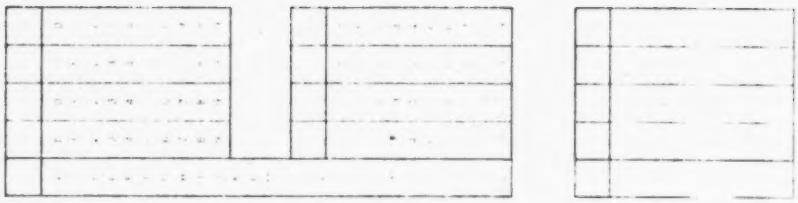
56. I find that the core concept of vocational education is too general for practical use.

57. I campaign vigorously for the adoption of a core vocational curriculum in my school.

58. I regard the core vocational curriculum as a minor change from the way vocational programs are presently taught.

59. I consider it impossible for me to develop a basic course for many vocational areas.

60. I support the establishment of a core vocational curriculum in area vocational schools.



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TOPIC A--REDUCING THE NUMBER OF UNDER-PREPARED PEOPLE ENTERING THE LABOR MARKET

Please keep this question in mind:

To what degree is each sentence, as it is stated, favorable or unfavorable toward the topic?

You are not to indicate whether you personally favor or reject each statement.

Have you rated every statement? Please check.

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FORM NO. 127

APPENDIX D

94/95

TABLE 15

SCALE (MEDIAN) VALUES, Q VALUES, AND STATEMENT NUMBERS IN PART II OF QUESTIONNAIRE OF ITEMS SELECTED FROM ORIGINAL 480 RATED STATEMENTS

Topic A -- Reducing the Number of Under-Prepared People Entering the Labor Market

Number	Scale Value	Q Value	No. in Part II	Number	Scale Value	Q Value	No. in Part II
1	6.2	1.2	1	31	1.5	1.2	
2	1.9	0.8	2	32	5.8	1.5	
3	4.5	2.0	3	33	4.0	3.1	
4	6.2	1.2	4	34	5.5	1.9	
5	6.2	1.2	5	35	3.5	2.4	18
6	6.0	1.3		36	2.6	2.3	
7	5.6	1.6		37	4.4	2.4	
8	2.2	2.0	6	38	1.8	1.1	19
9	5.2	1.7		39	1.6	1.2	
10	1.6	1.2	7	40	6.0	1.8	
11	1.2	0.9	8	41	6.1	1.5	20
12	5.8	1.7		42	5.3	1.3	
13	6.2	1.7		43	1.9	1.8	
14	3.8	3.2		44	1.4	1.3	21
15	5.3	1.1	9	45	1.5	1.2	22
16	5.9	1.6	10	46	1.3	1.0	23
17	1.7	2.5		47	2.1	1.6	24
18	4.9	2.4		48	1.9	1.4	
19	5.0	1.1	11	49	2.2	1.4	
20	5.2	1.1		50	6.2	1.2	25
21	5.6	1.4		51	6.0	1.4	
22	2.0	0.7	12	52	1.7	1.4	26
23	2.4	2.3	13	53	3.4	2.5	
24	2.5	1.9		54	5.9	1.3	
25	5.5	2.9		55	4.0	1.4	27
26	6.0	1.1	14	56	3.2	2.5	28
27	5.6	1.3	15	57	1.7	1.7	
28	5.7	1.6		58	1.9	1.1	
29	5.7	1.3	16	59	5.8	1.5	29
30	6.1	1.3	17	60	2.7	2.1	30

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TABLE 15, Cont.

Topic B -- Meeting the Special Needs of Disadvantaged Students

Number	Scale Value	Q Value	No. in Part II	Number	Scale Value	Q Value	No. in Part II
1	6.8	0.9	31	31	2.1	1.7	
2	6.6	1.1	32	32	6.1	1.6	49
3	2.8	1.7	33	33	5.9	1.3	
4	2.9	2.4		34	2.3	1.5	
5	2.2	1.3		35	2.1	1.4	
6	2.3	1.6		36	1.7	1.0	50
7	1.4	1.2	34	37	2.1	1.8	
8	1.3	1.3	35	38	1.1	0.6	51
9	1.8	1.0	36	39	6.3	1.3	52
10	6.0	0.9	37	40	3.5	1.7	53
11	4.7	2.3	38	41	2.1	1.2	
12	5.3	1.4		42	5.2	2.4	
13	1.8	1.1	39	43	5.9	1.9	
14	2.4	1.6		44	5.0	1.8	
15	1.8	1.1		45	6.0	1.6	
16	6.5	1.2	40	46	5.7	1.2	
17	6.5	1.3		47	5.1	1.3	
18	6.0	1.1	41	48	2.4	1.6	54
19	6.2	1.4		49	1.6	1.6	55
20	3.8	1.6		50	5.9	1.1	
21	3.1	1.8	42	51	5.9	1.1	56
22	1.7	1.8		52	2.1	1.0	57
23	2.7	1.5		53	5.3	2.1	
24	1.5	1.2	43	54	5.8	1.2	58
25	6.2	1.8	44	55	3.0	1.8	
26	5.7	1.2	45	56	1.9	1.6	59
27	5.7	1.7		57	6.3	2.1	
28	5.2	1.3	46	58	5.7	1.2	60
29	2.0	1.0	47	59	5.4	1.8	
30	4.0	2.5	48	60	1.6	2.0	

TABLE 15, Cont.

Topic C -- Beginning Preparation for Employment at an Earlier Age

Number	Scale Value	Q Value	No. in Part II	Number	Scale Value	Q Value	No. in Part II
1	1.1	0.6	61	31	1.6	1.1	80
2	2.0	0.7	62	32	2.0	0.9	
3	4.5	1.4	63	33	2.4	1.4	
4	6.7	1.3	64	34	5.2	1.3	
5	5.8	1.3		35	4.7	1.2	
6	6.3	1.3	65	36	5.6	1.3	
7	6.3	1.3		37	5.2	1.0	81
8	5.9	1.0		38	5.6	1.3	
9	1.3	1.0	66	39	2.1	0.9	82
10	1.9	1.1		40	2.2	1.6	83
11	1.9	1.1	67	41	1.3	1.2	84
12	2.4	1.3		42	2.4	2.0	
13	6.0	1.3		43	2.1	1.2	85
14	5.5	1.2		44	1.9	1.5	
15	5.5	1.1	68	45	5.9	1.4	
16	1.8	1.3		46	5.8	1.2	86
17	1.8	1.1	69	47	2.1	1.0	
18	2.2	1.2	70	48	4.8	1.3	
19	5.2	1.1		49	5.8	1.6	
20	5.6	1.1	71	50	5.9	1.4	
21	5.4	1.2	72	51	1.8	1.2	
22	5.5	1.2		52	2.2	1.2	87
23	6.0	1.1	73	53	4.9	0.8	
24	2.4	1.2	74	54	4.7	1.5	88
25	5.3	1.2	75	55	5.2	1.1	
26	5.7	1.4		56	4.9	0.9	
27	5.9	1.3	76	57	4.9	1.1	89
28	2.3	1.2	77	58	6.1	1.2	90
29	5.5	1.2	78	59	6.0	1.6	
30	2.1	1.4	79	60	6.7	1.0	

TABLE 15, Cont.

Topic D -- Cooperative Education

Number	Scale Value	Q Value	No. in Part II	Number	Scale Value	Q Value	No. in Part II
1	1.3	1.1	91	31	1.2	0.8	105
2	4.9	0.8		32	1.7	1.1	
3	6.6	1.2	92	33	6.0	1.0	
4	6.1	1.0	93	34	6.5	1.6	106
5	2.2	1.2		35	6.3	1.4	107
6	2.5	1.3		36	2.5	1.4	108
7	4.8	1.4		37	4.8	1.2	109
8	4.3	1.2	94	38	6.1	1.4	
9	5.8	1.5		39	4.0	4.0	
10	5.9	1.2		40	2.1	1.0	
11	6.0	1.4		41	1.8	1.1	110
12	5.8	1.3		42	3.3	1.7	111
13	2.0	1.5	95	43	5.6	1.2	112
14	1.3	1.0	96	44	1.5	1.4	113
15	1.4	1.2	97	45	1.6	1.0	114
16	1.9	1.1		46	1.8	1.5	
17	5.8	1.1	98	47	5.9	1.0	115
18	4.1	0.9	99	48	6.1	1.4	
19	5.9	1.3		49	5.5	2.3	
20	5.4	1.2		50	5.9	1.2	
21	2.3	1.1	100	51	5.7	1.5	
22	4.2	1.9		52	1.6	1.0	
23	6.1	1.5		53	1.6	1.1	
24	2.2	1.2		54	1.9	0.8	116
25	1.1	0.6	101	55	4.2	1.8	
26	3.1	1.2	102	56	3.2	2.0	
27	1.3	1.1	103	57	5.2	1.0	117
28	5.9	1.2		58	6.7	1.0	118
29	6.0	0.9	104	59	6.4	1.1	119
30	2.3	1.4		60	5.9	1.0	120

TABLE 15, Cont.

Topic E -- Individualization of Instruction and Behavioral Objectives

Number	Scale Value	Q Value	No. in Part II	Number	Scale Value	Q Value	No. in Part II
1	6.2	1.2	121	31	5.1	1.1	
2	5.0	1.9		32	2.2	1.4	
3	1.5	2.2	122	33	5.9	1.2	135
4	6.1	1.2		34	5.5	1.3	136
5	6.4	1.1	123	35	2.0	1.0	137
6	2.2	1.3	124	36	5.6	1.2	
7	5.6	1.6		37	4.2	1.6	138
8	3.6	1.7	125	38	4.5	1.5	
9	4.7	1.2		39	2.4	1.5	139
10	1.8	1.5		40	1.6	1.1	140
11	1.4	1.2	126	41	1.5	1.2	141
12	1.4	1.2	127	42	6.3	1.2	142
13	6.0	1.4		43	5.7	1.3	
14	5.4	1.1	128	44	5.9	1.3	
15	4.7	1.1	129	45	3.0	1.3	143
16	1.9	1.4		46	5.5	1.4	
17	1.2	1.0	130	47	2.9	1.2	144
18	1.9	1.1	131	48	2.2	1.5	
19	5.5	1.1		49	1.8	1.2	145
20	5.4	1.3		50	6.2	1.3	
21	3.7	1.7		51	1.4	1.3	146
22	2.5	1.2	132	52	5.7	1.1	147
23	6.1	0.7	133	53	3.0	1.9	
24	5.6	1.2	134	54	6.3	1.3	
25	2.1	1.3		55	6.0	1.0	148
26	5.5	1.6		56	5.1	1.1	149
27	2.0	1.4		57	5.2	1.1	
28	4.5	1.3		58	4.9	0.8	
29	5.3	1.3		59	6.5	1.3	150
30	5.4	1.3		60	1.9	1.6	

TABLE 15, Cont.

Topic F -- Adult Education

Number	Scale Value	Q Value	No. in Part II	Number	Scale Value	Q Value	No. in Part II
1	1.7	1.3	151	31	1.4	1.1	
2	1.6	1.2	152	32	5.8	1.5	
3	3.8	2.1		33	6.2	1.0	166
4	6.6	1.1	153	34	1.6	1.2	
5	6.4	1.1	154	35	6.5	1.3	167
6	2.9	2.3		36	6.1	0.9	168
7	1.6	1.1		37	5.9	1.4	
8	1.9	0.9	155	38	1.1	0.6	169
9	6.1	1.5		39	6.3	1.1	170
10	5.1	1.5	156	40	6.5	1.1	171
11	6.3	1.2		41	1.4	1.0	172
12	2.0	1.0	157	42	5.4	1.5	173
13	1.3	1.1	158	43	1.3	1.2	174
14	1.1	0.6	159	44	4.6	1.3	175
15	5.8	1.3		45	3.0	1.2	176
16	6.1	1.5		46	4.7	1.3	
17	4.1	1.7	160	47	2.6	1.2	177
18	6.1	1.6		48	2.8	2.3	
19	6.7	1.1	161	49	2.1	1.3	
20	6.1	1.3		50	5.9	1.4	
21	2.7	1.8	162	51	6.0	1.4	
22	1.4	1.3	163	52	4.3	1.6	
23	4.6	1.3		53	3.6	1.2	178
24	5.9	1.1	164	54	6.0	1.4	
25	1.9	1.3		55	6.0	0.9	179
26	2.1	1.4		56	2.3	2.0	180
27	2.1	1.0		57	2.0	1.6	
28	5.8	1.2		58	5.8	1.3	
29	4.4	1.4		59	6.0	0.7	
30	6.6	1.1	165	60	4.8	1.7	

TABLE 15, Cont.

Topic G -- Team Teaching and Differentiated Staffing

Number	Scale Value	Q Value	No. in Part II	Number	Scale Value	Q Value	No. in Part II
1	1.1	0.6	181	31	5.6	1.2	195
2	4.0	0.6	182	32	6.1	1.1	
3	6.8	1.1	183	33	1.7	1.3	196
4	2.3	1.7		34	2.1	1.0	197
5	2.4	1.4	184	35	4.9	0.8	
6	5.7	1.3		36	5.0	1.3	
7	4.8	1.5	185	37	2.3	1.4	
8	6.0	1.5		38	2.2	1.7	
9	2.6	1.2	186	39	6.0	1.0	198
10	1.8	1.5	187	40	5.8	1.0	199
11	5.0	0.8		41	5.7	1.4	200
12	6.6	1.2	188	42	1.4	1.4	201
13	6.1	1.2	189	43	2.3	1.3	
14	5.8	1.1		44	3.9	0.7	202
15	5.2	1.1		45	5.1	0.7	203
16	2.3	1.3		46	5.9	1.4	
17	4.9	0.9		47	5.6	1.2	
18	3.1	2.4	190	48	2.9	0.8	204
19	1.7	1.4		49	2.1	1.1	
20	2.1	1.2		50	5.0	0.8	205
21	4.3	1.6	191	51	2.0	1.2	206
22	1.9	1.4	192	52	4.6	2.2	
23	2.1	1.2		53	5.7	1.4	
24	5.6	1.4		54	1.2	0.8	207
25	5.2	1.0		55	5.1	0.8	
26	4.8	2.3		56	5.8	1.4	
27	1.3	1.1	193	57	6.3	1.1	208
28	2.3	1.3	194	58	5.9	0.9	209
29	4.0	2.0		59	2.2	1.2	210
30	5.7	1.4		60	5.4	1.4	

TABLE 15, Cont.

Topic H -- Core Vocational Curricula

Number	Scale Value	Q Value	No. in Part II	Number	Scale Value	Q Value	No. in Part II
1	6.6	1.2		31	5.5	1.2	
2	6.5	1.2	211	32	4.8	1.2	
3	5.2	1.2		33	4.6	1.3	228
4	2.1	1.4	212	34	2.4	1.2	
5	2.0	0.8	213	35	4.8	1.1	
6	1.3	1.1	214	36	3.3	1.9	
7	5.4	1.2	215	37	2.3	1.2	229
8	3.4	1.3	216	38	5.0	0.7	230
9	2.3	1.3		39	1.7	1.4	231
10	5.9	1.1		40	2.9	2.3	
11	4.9	0.8		41	6.0	1.0	
12	5.9	1.3		42	5.9	1.0	
13	5.9	1.5		43	6.0	0.9	232
14	5.7	1.3		44	2.5	1.3	233
15	5.8	1.3	217	45	2.0	0.9	234
16	6.7	1.0	218	46	6.7	1.2	235
17	6.0	0.8	219	47	6.4	1.2	
18	6.6	1.2	220	48	3.9	0.8	
19	5.1	1.1		49	5.0	1.0	
20	2.3	1.2	221	50	1.4	1.1	236
21	2.2	1.5		51	1.3	1.5	
22	5.5	1.3		52	2.1	1.2	
23	4.9	0.7		53	5.3	1.7	
24	1.3	0.9	222	54	5.3	1.2	
25	5.1	0.8		55	2.8	1.1	237
26	3.6	2.6	223	56	2.1	1.2	238
27	6.4	1.3	224	57	6.8	1.0	239
28	1.2	0.7	225	58	4.1	1.3	240
29	1.3	1.0	226	59	2.0	1.4	
30	6.0	0.8	227	60	5.9	1.3	

APPENDIX E

The Center
For RESEARCH AND LEADERSHIP DEVELOPMENT IN
Vocational and Technical Education

THE OHIO STATE UNIVERSITY
1900 KENNY ROAD
COLUMBUS, OHIO 43210

February 26, 1971

(Personalized letter to
50 state directors of
vocational education)

Dear

The Center is conducting research designed to identify potential innovators and other vocational teachers likely to implement changes. Such knowledge should be helpful to state supervisors (consultants) in working with vocational teachers to revise and strengthen vocational education programs in local schools.

Will you help us identify teachers who can assist in the instrument development phase of the project? We are asking you to give each enclosed packet to the supervisor(s) who is most knowledgeable of individual teachers in the respective vocational service areas (e.g., Ag., D.E., Home Ec., etc.). Feel free to ask a supervisor to nominate persons from more than one service area when this is appropriate. The packets contain instructions for supervisors to follow in making nominations. The nominations should require only a few minutes of the supervisors' time, and teachers selected will be paid $10.00 to complete the materials we will send them.

If you will agree to assist us, please check the enclosed postal card appropriately and return to us. Please have the packets distributed to the supervisors and ask that the nominations be returned to you within 10 days. After you receive the completed packets, please insert them in the enclosed, preaddressed envelope and return them to us.

We appreciate your assistance very much. Best wishes for a successful 1971.

Sincerely,

Robert E. Taylor
Director

RET:sc

Enclosures

The Center for Vocational and Technical Education
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210

INSTRUCTIONS TO COOPERATING SUPERVISORS/CONSULTANTS

We need your help in identifying vocational teachers in your service area who we could contact to complete some materials in an instrument development project. Teachers selected will be paid $10.00 to complete the forms. None of the teachers will be told he was nominated as a participant in the project, so your assistance will be kept in confidence.

The ultimate purpose of this project is to assist you in working more effectively with teachers to improve local vocational education programs.

Crucial to our success in this effort is the identification of "extreme" groups of teachers in each service area. Pairs of teachers nominated should differ primarily in how they use (and fail to use) new ideas in their local vocational education programs. In other words, we want to identify (1) a group of teachers who are constantly trying new ideas and approaches, and (2) a group of teachers who are most reluctant to try anything new.

So that differences in the pairs of teachers you nominate are mainly due to their use or non-use of new ideas, please match <u>each teacher</u> in a pair on the following criteria. One <u>pair</u> of teachers may differ from another <u>pair</u> on the socio-economic setting, size of school, age, experience, and so forth.

1. A pair of "extreme" teachers should be teaching in secondary schools in similar socio-economic settings.

2. A pair of "extreme" teachers should be teaching in secondary schools of approximately equal <u>total</u> (not vocational) enrollments.

3. A pair of "extreme" teachers should come from <u>different</u> schools.

4. A pair of "extreme" teachers should be of approximately equal age.

5. A pair of "extreme" teachers should have been teaching at least three years and for approximately equal periods of time.

6. A pair of "extreme" teachers should be known by you personally, rather than being teachers you have heard about.

On the attached sheets, please place the nominations of the "extreme" teachers according to the following guidelines:

Number of teachers in your service area in your state	Number of pairs of teachers to nominate
15 - 30	1 pair
31 - 100	2 pairs
101 - 400	3 pairs
over 400	4 pairs

If there are over 100 teachers in your service area, please consult another knowledgeable supervisor in making three or four pairs of nominations, if possible.

Please return the nominations to your State Director so that he may forward all nominations from your state to The Center. Thank you.

NOMINATIONS OF "EXTREME" SECONDARY TEACHERS,
1970-71 ACADEMIC YEAR

in_____
(please specify service area)

Please refer often to the criteria for making nominations. To help assure accuracy, please print or type.

Pair #1

Most willing to try new ideas:	Most reluctant to try new ideas:
Name_____	Name_____
Department_____	Department_____
School_____	School_____
Street or Route_____	Street or Route_____
City_____ State_____	City_____ State_____
Telephone_____ _____ Zip____ (area code)	Telephone_____ _____ Zip____ (area code)

Briefly specify (with actual events that have occurred - things the teachers have done) why you placed each name in each category.

Pair #2

Most willing to try new ideas:	Most reluctant to try new ideas:
Name_____	Name_____
Department_____	Department_____
School_____	School_____
Street or Route_____	Street or Route_____
City_____ State_____	City_____ State_____
Telephone_____ _____ Zip____ (area code)	Telephone_____ _____ Zip____ (area code)

Briefly specify (with actual events that have occurred - things the teachers have done) why you placed each name in each category.

Pair #3

Most willing to try new ideas:

Name_____
Department_____
School_____
Street or
Route_____
City_____State_____
Telephone____ _____Zip____
(area code)

Most reluctant to try new ideas:

Name_____
Department_____
School_____
Street or
Route_____ _____
City _____State_____
Telephone____ _____Zip____
(area code)

Briefly specify (with actual events that have occurred - things the teachers have done) why you placed each name in each category.

Pair #4

Most willing to try new ideas:

Name_____
Department_____
School_____
Street or
Route_____
City_____State_____
Telephone____ _____Zip____
(area code)

Most reluctant to try new ideas:

Name_____
Department_____
School_____
Street or
Route_____
City_____State_____
Telephone____ _____Zip_____
(area code)

Briefly specify (with actual events that have occurred - things the teachers have done) why you placed each name in each category.

APPENDIX F

112/13

The Center For RESEARCH AND LEADERSHIP DEVELOPMENT IN

Vocational and Technical Education

THE OHIO STATE UNIVERSITY
1900 KENNY ROAD
COLUMBUS, OHIO 43210

May 12, 1971

Dear Colleague:

If you can help us with a special project to improve vocational education, we will send you a *$10.00 token of appreciation for your assistance.* The project requires opinions of persons like yourself who guide vocational education programs. So, we need your help in completing the enclosed questionnaire and returning it in the pre-addressed, postpaid envelope.

Your return envelope must be *postmarked by Monday, May 31, 1971.* Be sure to provide complete information in each blank checked on *both* "Certification of Services" forms. This will help us process your check promptly. If for some reason you cannot complete the questionnaire, please return it immediately in the envelope.

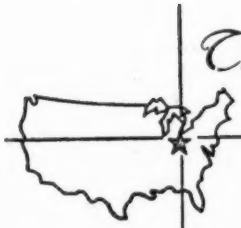
We appreciate your participation and look forward to receiving the completed questionnaire.

Sincerely,

Earl B. Russell
Research Associate

EBR:sc

Enclosures



The Center
For RESEARCH AND LEADERSHIP DEVELOPMENT IN
Vocational and Technical Education

THE OHIO STATE UNIVERSITY
1900 KENNY ROAD
COLUMBUS, OHIO 43210

May 20, 1971

Dear

Last week you should have received the "National Vocational Teacher Opinions Questionnaire" which we hope you have had time to complete. You may be assured that your responses will be kept confidential.

If you have not completed the questionnaire, please do so and return it *postmarked by no later than Monday, May 31, 1971.*

We likewise will be prompt in sending your *$10.00 token of appreciation* for your time.

Thanks for your valuable help at this busy time of year!

Sincerely,

Earl B. Russell
Research Associate

EBR:sc

NATIONAL VOCATIONAL TEACHER OPINIONS QUESTIONNAIRE

The purpose of this questionnaire is to obtain some general information from persons like you who help guide vocational education programs. It is hoped the results of this study will aid in continuing the progress of vocational education in your state and in other states.

There are three parts to this questionnaire. Part I asks about you and your activities. Part II contains eight groups of statements relating to vocational education which you are asked to rate as to their acceptability to you. Part III contains two groups of statements relating to important social and personal questions on which you are asked to indicate your feelings.

Please read the instructions for each part carefully before completing that part. Be sure to complete each part before turning to the next one. Please respond to EACH statement. Once having completed a page, do not turn back to it.

There is neither a right nor wrong response to these statements. Be as honest as you can about your feelings. You are asked not to sign the questionnaire. None of the completed questionnaires will be shown to your colleagues or supervisors.

Your participation and cooperation are greatly appreciated.

THE CENTER FOR VOCATIONAL AND TECHNICAL EDUCATION
THE OHIO STATE UNIVERSITY 1900 Kenny Rd., Columbus, Ohio, 43210

PART I

Instructions:

Before you complete any items on the mark-sensitive answer sheets, please complete the following items. Read each item carefully and PRINT your responses on these pages when appropriate.

1. I am a teacher of *(check appropriate service area)*:

___Agriculture
___Business and Office
___Distributive Education
___Health Occupations
___Home Economics
___Trade and Industrial Education
___Other *(specify)*_____.

2. My age is_____ years.
(to nearest birthday)

3. I am a *(check appropriate space)*: Female___
Male_____

4. I have completed the following amount of formal education *(check highest amount)*:

___high school or less
___post-secondary or technical degree
___bachelors degree
___masters degree
___masters degree plus
___doctors degree

5. I have been a vocational teacher for _____ years.
(specify number)

6. I have taught vocational subjects in _____ schools.
(specify number)

7. I have taught vocational subjects in _____ states.
(specify number)

8. The number of teachers in my vocational education service area in my school is _____.
(specify number)

9. The TOTAL number of students now enrolled in my vocational education service area (agric., business and office educ., D.E., etc.) in my school is _____.
(specify number)

10. The school in which I teach is in the following setting *(check one)*:

___predominantly urban
___predominantly rural
___both rural and urban

11. I have had the following occupational experiences (other than teaching) which have been of direct value to me in teaching vocational subjects: *(specify types of employment and not specific tasks. If none, write "none.")*

a. _____.

b. _____.

c. _____.

d. _____.

e. _____.

f. _____.

g. _____

h. _____

12. The following unique or unusual features of my vocational education instructional program resulted from the implementation of my own ideas. If none, write "none." *(Please read item 13 before responding.)*

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

13. The following unique or unusual features of my vocational education instructional program resulted from my implementation of ideas gathered from other vocational teachers, state supervisors, teacher educators, or other outside sources. If none, write "none."

a. _____

b. _____

c. _____

d. _____

e. _____

f. _____

g. _____

h. _____

14. The major strengths of my vocational education instructional program are as follows: *(Please list only three.)*

a. _____

b. _____

c. _____

PART II

Instructions:

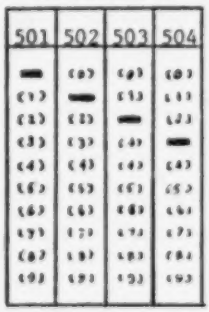
The following is a survey of your opinions about various areas in vocational education. There are no right or wrong responses, so do not hesitate to mark the statements frankly. In answering each statement we want your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many other people feel the same as you do. Please be sure you DO NOT OMIT ANY STATEMENT.

Using the No. 2 PENCIL provided, make a heavy mark under the appropriate number on the separate answer sheets. If you change a response, erase the first mark completely. Make no stray marks on the answer sheets. Mark your answers using the following code:

0 = strongly agree SA
1 = agree A
2 = disagree D
3 = strongly disagree SD

Ignore the extra options in the answer sheet grids.

Section XYZ



PLEASE NOTE: You may want to refer to the Glossary of Terms on the last page of this booklet before beginning this part.

PART II

Section A

1. The major responsibility for preparing students better for the world of work rests particularly upon vocational education courses in public schools.

2. Expanding vocational education offerings won't noticeably reduce the number of under-prepared people entering the labor market.

3. Vocational education should be encouraged if a person chooses it.

4. I am active in explaining the advantages of vocational and technical education to the student body in my school.

5. I initiate school-wide activities and publicity to encourage students to acquire employment skills.

6. I will wait and see what effect the funds being spent on vocational education has before I support it for more students.

7. Working actually prepares people for work so vocational courses should not be expected to accomplish such a task.

8. Preparing students for the world of work is unrealistic for the vocational teacher.

9. I inform the guidance counselor of students who I feel would profit more from vocational courses.

10. A vocational survey course should be required of students early in high school.

11. Some form of occupational education is good for students.

12. Skilled workers without jobs sometimes cause me to seriously doubt the value of vocational education.

13. I doubt if the proportion of poorly prepared people entering the labor market today is any worse than it was fifty years ago.

14. I argue that nearly all secondary students should be on some type of work-study program at some time.

15. I contend most students planning to attend college should take some vocational education.

16. I believe recent changes in vocational programs can reduce the number of potential dropouts.

17. Preparing more people to enter the labor market should be a primary function of vocational education.

18. Vocational students get prepared to work if they want to.

19. Schools can't do much to develop positive attitudes toward work.

20. Vocational education may be extremely valuable to students who find other school programs meaningless.

21. The labor market changes so rapidly, it's hardly worth the vocational teacher's effort to anticipate the future.

22. I refuse to assume responsibility for unemployed young people who lack initiative.

23. I believe it is useless to try to help students who are predestined to failure.

24. Under-prepared people can acquire needed skills once they are in their first job.

25. I regularly investigate the new skills and occupations in the labor market to update my courses.

26. Vocational education is flooding the labor market.

27. Present vocational education programs are adequate.

28. Being under-prepared for the labor market results from low motivation rather than lack of opportunity for vocational instruction.

29. The number of under-prepared people entering the labor market is reduced through vocational education.

30. I believe that there will always be a need for unskilled workers in the labor force.

Section B

31. Vocational education for disadvantaged students is a necessity if these students are to become useful citizens.

32. Vocational education is vital for job success of the disadvantaged.

33. Other available avenues for meeting the special needs of the disadvantaged are as good as vocational education.

34. The problems of disadvantaged students are too complex for vocational education to overcome.

35. I have no desire to teach disadvantaged vocational students.

36. Vocational education programs for the disadvantaged child are low on my priority list.

37. Vocational education can do much to improve the opportunities of disadvantaged children.

38. The vital job of providing vocational preparation for disadvantaged students is often overlooked by vocational teachers.

39. Special education programs in vocational education do little if any good for the disadvantaged person.

40. Special programs of instruction in vocational education for the disadvantaged should be required of schools.

41. Vocational education for disadvantaged students could be successfully implemented in almost any school.

42. Considering the many problems facing education, meeting the vocational education needs of the disadvantaged is a moderate problem.

43. We now have more vocational programs than we need for the disadvantaged.

44. If we do not enact vocational education programs for the disadvantaged, it will cost us many times more in the future.

45. Of the disadvantaged students I encounter, most of them would benefit from a vocational education program.

46. Vocational education for the disadvantaged could work with the right kind of instructors.

47. Vocational education can do little to alleviate the problems of disadvantaged people.

48. Disadvantaged students should receive the same vocational preparation as other students without emphasis on handicaps.

49. I spend a lot of time making sure my courses meet the special needs of disadvantaged students.

50. It is not practical for vocational education to try to meet the special needs of disadvantaged students.

51. Vocational programs for the disadvantaged are doomed to failure.

52. For the disadvantaged student, vocational education is much more important than general or academic courses.

53. We must realize that a few disadvantaged students cannot be trained for a job.

54. Special vocational programs can do little to help a child from a low socio-economic family until his home atmosphere is improved.

55. Students with various disadvantages are too difficult to teach.

56. Vocational education to enable a disadvantaged student to get a job may give him a sense of dignity.

57. Most disadvantaged students do not work hard enough to benefit from vocational programs.

58. Society imposes a moral obligation on us to provide vocational education to disadvantaged students.

59. I avoid teaching those who show little ambition and promise.

60. Vocational education can help disadvantaged students who consistently fail in other subjects.

Section C

61. Beginning preparation for employment in the elementary grades is absurd.

62. Students can benefit little from occupational education in the elementary grades.

63. I think there's no harm in starting occupational preparation for young school children.

64. Occupational education in elementary schools is absolutely essential for a comprehensive curriculum.

65. An excellent way to create desire among students to work is by providing study of occupations at the earliest possible time.

66. Occupational education in elementary school would be a misuse of teacher's time and taxpayers' money.

67. Elementary school pupils are better off studying broad subject areas than studying the "world of work".

68. Occupational education would open the eyes of elementary students to an interesting new world.

69. I discourage students from exploring a world of work in which they are too young to participate.

70. I maintain that occupational education for students who are too young to be employed is seldom effective.

71. Earlier school preparation for employment will in the long run upgrade the nation's work force.

72. I help provide occupational study in the elementary grades in my school system.

73. A cure for high unemployment in the future is to begin occupational education in the elementary years.

74. Preparation for employment at an early age limits students' job perspectives.

75. Early occupational education may stimulate a better attitude toward school work in later years.

76. Vocational teachers can make a real contribution to occupational education at the elementary level.

77. The number of children who would benefit from occupational preparation at an earlier age is small.

78. Teachers have a responsibility to provide occupational education to elementary school students.

79. Primary and intermediate pupils are too young to comprehend occupational education.

80. I believe students would be harmed more than helped by occupational education at an early age.

81. Whenever possible, elementary students should be encouraged to think about their future occupation.

82. On the whole, elementary students are unable to benefit from occupational preparation.

83. I am convinced that students need to learn the three R's well before starting occupational education.

84. There is no need in the elementary curriculum for the addition of occupational education.

85. Occupational education for elementary students will have little effect since jobs change so rapidly.

86. Occupational preparation at an earlier age is necessary for equalizing educational opportunity.

87. I doubt that earlier preparation for employment would influence a person's employability.

88. Beginning occupational education in the elementary grades should grow out of identified community needs.

89. I hope to learn more about occupational education for elementary schools.

90. Preparation for employment needs to be part of the K-12 curriculum.

Section D

91. I oppose programs which pay students to learn.

92. I insist that cooperative education is a superior way to provide student work experience.

93. I favor cooperative education because it provides a smooth transition from school to work.

94. I give my students an opportunity to choose regular vocational courses or cooperative education.

95. I sidestep cooperative education since it is so difficult to supervise and control.

96. I object to cooperative education because it creates more problems than it solves.

97. I refuse to place a student in a job because the employer's supervision often contradicts my instruction.

98. I support a program of cooperative education in any vocational education curriculum.

99. I find that students can learn well either at school or on a co-op job.

100. I fear that many students may be misled by cooperative education and quit school for a full-time job.

101. I refuse to have students in cooperative education programs.

102. I spend a lot of time wondering how well cooperative education students learn by doing.

103. I view cooperative work experience for high school students as an incentive to quit school.

104. I prefer student participation in the cooperative education program over other school activities.

105. I insist that instruction at school and job training do not mix.

106. I do my most effective teaching in a cooperative education program.

107. I support cooperative education as the most positive form of vocational education.

108. I discourage participation in cooperative education unless the student can maintain a decent grade point average.

109. I allow my students to hold jobs in a cooperative education program.

110. I look upon cooperative education programs as simply free employment agencies.

111. I contend that cooperative education aids certain students but not others.

112. I advocate cooperative education in schools that do not offer it.

113. I oppose cooperative education because students get specialized too soon.

114. I view cooperative education as a terrific waste of time for above average students.

115. I enjoy helping students find suitable training stations for a cooperative education program.

116. I frown upon cooperative education because college bound students are often enticed to abandon their college plans.

117. I find that cooperative education helps some of my students adjust to employment after graduation.

118. I regard cooperative education as the most effective aspect of vocational programs.

119. I conduct cooperative education on the premise that the best way to learn the job is to do it.

120. I encourage students to work part-time in a job related to their anticipated occupation.

Section E

121. I grade projects not by comparing them to an ideal one, but by determining how well a student has worked up to his potential.

122. I maintain strict classwide criteria for grading.

123. I try to help each student decide what level of work he can expect to achieve--then I try to help him achieve it.

124. I find that individualizing instruction in behavioral terms causes slower students to feel inferior.

125. I use many teaching methods that are as effective as individualized instruction.

126. I expect my students to accept set learning objectives regardless of their own petty desires.

127. I advocate the notion that individual student needs are not the basis of good vocational instruction.

128. I usually try to set aside time in each class for individual instruction.

129. I write behavioral objectives if I need to clarify my lesson plans.

130. I insist that determining behavioral objectives for each student is out of the question.

131. I avoid letting myself become "bogged down" writing behavioral objectives for each student.

132. I question the need for using individualized instruction and behavioral objectives.

133. I find that individualized instruction using behavioral objectives is valuable in helping the student succeed.

134. I try to give each student some individualized instruction, using behavioral objectives to determine success.

135. I meet individual needs by helping each student perform tasks at his ability level.

136. I modify behavioral objectives so that each student in my vocational classes can achieve them.

137. I contend that individualized instruction using behavioral objectives is asking too much of the vocational teacher.

138. I relate individual needs through classwide instruction.

139. I tell my students they must keep pace with the class if they are to cope with the realities of life.

140. I oppose behavioral objectives for each of my students because it is impossible to measure their success.

141. I see no purpose in determining a student's present needs to teach a vocational education course geared to future needs.

142. I'm convinced individualized instruction using behavioral objectives should be used in my classroom instruction.

143. I find individualized instruction using behavioral objectives benefits only a few students in the class.

144. I prefer not to set up precise behavioral objectives for each of my students.

145. I believe it is more important to work with the entire class than to spend a lot of time with individuals.

146. I teach every student the same way because it has worked well for years.

147. I accept the idea that individualized instruction using behavioral objectives allows students to experience success more often.

148. I prepare assignments to fit each student's ability to perform them.

149. Stating behavioral objectives for each student sometimes alerts me to questionable teaching practices.

150. I regularly use behavioral objectives with individualized learning experiences to help my students develop to their potential.

Section F

151. I find that adults in vocational classes refuse to heed my advice.

152. I say adult education is not the business of the high school vocational teacher.

153. I am convinced that adult education is essential for a balanced vocational program.

154. I initiate new courses for adults whose present vocational skills are obsolete.

155. I consider teachers in high school too far removed from adults to help retrain them.

156. I support adult education in my vocational area when another person is responsible for the instruction.

157. I look on adult vocational education as more of a burden than an opportunity for the teacher.

158. I refuse to waste my efforts in training adults who have a history of unemployment.

159. I find teaching vocational courses to adults a complete waste of time.

160. I consider adult vocational education as a problem area of moderate importance.

161. Adult education is a top priority item in my teaching schedule.

162. I contend that adult education belongs in the private trade school or industry.

163. I oppose public education beyond the post-secondary level.

164. I assume responsibility for recruiting adults for vocational education.

165. I carry out adult vocational education as a vital part of the total program I conduct.

166. I consider adult vocational education an essential step toward combating unemployment.

167. I regularly promote and teach vocational classes for adults.

168. I encourage adults to take vocational courses regularly to keep up to date.

169. I say forget vocational classes for adults--you can't teach an old dog new tricks.

170. I argue strongly that adults need up-dating in their occupational skills.

171. I'm convinced that adult education is a crucial need in today's vocational education programs.

172. I contend that vocational education for adults is a fallacy--adults who get it need it the least.

173. Teaching adults keeps me up-to-date with today's world of work.

174. I refuse to teach adults who did not care to learn when they were students.

175. When I can find the time I enjoy working with adults.

176. I favor adults learning through their own efforts.

177. I find that few adults are willing to attend adult vocational classes.

178. I find that training programs for adults are usually provided by industry.

179. I argue that increased emphasis on adult vocational programs would eventually reduce inner-city unemployment.

180. I avoid teaching adult courses--my other teaching is a full-time job.

Section G

181. I consider differentiated team teaching as an unworkable method of instruction.

182. I lack enough information about differentiated team teaching to make a decision for or against it.

183. I wholeheartedly endorse the use of differentiated teaching teams to provide the best instruction collectively possible.

184. I contend that team teaching encourages teachers to avoid improvement in their areas of weakness.

185. I find that planning as a member of a teaching team is no more time consuming than planning for regular teaching.

186. I doubt that differentiated team teaching is as good as older, proven methods.

187. I plan to remain the only teacher responsible for the instruction of my classes.

188. I'm convinced the cooperation of "teaching specialists" in a team would produce a superior type of education.

189. As part of a teaching team I could spend more time developing creativity, responsibility, and habits of inquiry in students.

190. I am unable to keep current enough in my field to teach effectively in the specialized areas.

191. I can function as well as a member of a differentiated teaching team as I can teaching alone.

192. I teach my classes without assistance and discourage others from helping.

193. I would greatly dislike being a member of a differentiated teaching team.

194. Team teachers with different philosophies than mine would confuse students.

195. I uphold the differentiated team teaching concept as permitting a natural exchange of ideas.

196. I object to differentiated team teaching because it produces status hierarchies among team members.

197. I do not work well enough with others to make differentiated team teaching work.

198. I contend that variety in teaching personalities on a differentiated team would increase pupil learning.

199. I contend that differentiated team teaching provides excellent experience for teachers.

200. I argue that the traditional method of teaching is not as effective as differentiated team teaching.

201. I plan to teach my own classes in my own way.

202. I find that team teaching and differentiated staffing produce the same results as individual teaching.

203. I may participate in differentiated team teaching if it allows me to teach in depth about the area in which I am best.

204. I have too little individual contact with my students using the team teaching method.

205. When teaching help is available in certain specialized areas I use it.

206. Team teaching would require too much of my time in planning and curriculum revision.

207. I'm convinced that differentiated team teaching is a waste of time.

208. I believe the student benefits much more when differentiated staffing and team teaching are used.

209. Use of differentiated team teaching would allow me to put more varied content into my lessons.

210. I say that differentiated team teaching is asking too much of established teachers.

Section H

211. I highly recommend a core vocational curriculum to high school students, regardless of their career objectives.

212. I can't cope with the extreme variability of student interests and abilities in core vocational courses.

213. I don't expect students to gain much from a core vocational curriculum.

214. I regard the core vocational curriculum as a university professor's impractical idea.

215. I support the association of students of potentially diverse occupations in core vocational courses.

216. It would be difficult for me to teach a core vocational course without slanting it toward my specialty.

217. I maintain that evidence supports the core vocational curriculum.

218. I insist on a well-developed core vocational curriculum as a basis for specialized occupational programs.

219. Teaching in a core vocational curriculum, I could foster better cooperation and understanding in the school.

220. I advocate that a core vocational curriculum be required of high school students regardless of plans after graduation.

221. I suspect a core vocational curriculum would be a bore to most students.

222. I campaign against core vocational courses at faculty meetings.

223. I prefer to put emphasis on obtaining the skills and knowledge necessary for a group of related occupations than on "common" knowledge.

224. I insist that each student take a core vocational curriculum so other instruction will make more sense.

225. I consider a core vocational curriculum to be a hodgepodge of meaninglessness.

226. I oppose movements to establish a core vocational curriclum at my school.

227. With a core vocational curriculum in operation, I can increase the quality of my specialized courses.

228. I would teach core vocational subjects if required.

229. I suspect a core vocational curriculum would present a general overview with little value to students.

230. I support the concept of a core vocational curriculum for some students.

231. I see no common knowledge, attitudes, and skills needed by all students in vocational education.

232. I encourage development of a core vocational curriculum as a fresh approach to old problems.

233. I prefer to set up an occupational area program rather than to put a student in a core vocational curriculum.

234. I discourage a core vocational curriculum for students interested in specific occupational areas.

235. I actively participate in developing a core vocational curriculum for my school.

236. I won't make my students waste their time in a core vocational curriculum.

237. I am more interested in teaching the skills for a specific group of occupations than in providing a core curriculum.

238. I find that the core concept of vocational education is too general for practical use.

239. I campaign vigorously for the adoption of a core vocational curriculum in my school.

240. I regard the core vocational curriculum as a minor change from the way vocational programs are presently taught.

PART III

Instructions:

The following is a survey of your opinions about a number of social and personal questions. There are no right or wrong responses, so do not hesitate to mark the statements frankly. In answering each statement we want your personal opinion. We have tried to cover many different and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many other people feel the same as you do. Please be sure you DO NOT OMIT ANY STATEMENT.

Using the No. 2 PENCIL provided, make a heavy mark under the appropriate number on the separate answer sheets. If you change a response, erase the first mark completely. Make no stray marks on the answer sheets. Mark your answers using the following code:

0 = agree very much
1 = agree on the whole
2 = agree a little
3 = disagree a little
4 = disagree on the whole
5 = disagree very much

Ignore the extra options in the answer sheet grids.

Section ZYX

	601	602	603	604	605	606
AM	▬	(0)	(0)	(0)	(0)	(0)
AW	(1)	▬	(1)	(1)	(1)	(1)
AL	(2)	(2)	▬	(2)	(2)	(2)
DL	(3)	(3)	(3)	▬	(3)	(3)
DW	(4)	(4)	(4)	(4)	▬	(4)
DM	(5)	(5)	(5)	(5)	(5)	▬
	(6)	(6)	(6)	(6)	(6)	(6)
	(7)	(7)	(7)	(7)	(7)	(7)
	(8)	(8)	(8)	(8)	(8)	(8)
	(9)	(9)	(9)	(9)	(9)	(9)

Section A

1. In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

2. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

3. A man doesn't really have much wisdom until he is well along in years.

4. If something grows up after a long time, there will always be much wisdom to it.

5. Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

6. Most people just don't know what's good for them.

7. If you start trying to change things very much, you usually make them worse.

8. The main thing in life is for a person to want to do something important.

9. My blood boils whenever a person stubbornly refuses to admit he's wrong.

10. I'd like it if I could find someone who would tell me how to solve my personal problems.

11. The present is all too often full of unhappiness. It is only the future that counts.

12. I have greater respect for a man who is well-established in his local community than a man who is widely known in his field but who has no local roots.

13. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

14. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

15. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

16. Most people just don't give a "damn" for others.

17. The most rewarding organizations a person can belong to are local clubs and associations rather than large nation-wide organizations.

18. It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.

19. I prefer the practical man anytime to the man of ideas.

20. Despite all the newspaper and TV coverage, national and international happenings rarely seem as interesting as events that occur right in the local community in which one lives.

21. We must respect the work of our forefathers and not think that we know better than they did.

22. Big cities may have their place but the local community is the backbone of America.

23. Even though freedom of speech for all groups is a constitutional right, some political groups abuse this freedom.

24. There are two kinds of people in this world: those who are for the truth and those who are against the truth.

25. It's better to stick by what you have than to be trying new things you don't really know about.

26. No doubt many newcomers to the community are capable people, but when it comes to choosing a person for a responsible position in the community, I prefer a man whose family is well established in the community.

27. Of all the different philosophies which exist in this world there is probably only one which is correct.

28. While I don't like to admit this even to myself, my secret ambition is to become a great man, like Einstein or Beethoven or Shakespeare.

29. Man on his own is a helpless creature.

30. All groups can live in harmony in this country without changing the system in any way.

31. No matter how we like to talk about it, political authority really comes not from us, but from some higher power.

32. I'd want to know that something would really work before I'd be willing to take a chance on it.

33. The United States and Russia have just about nothing in common.

34. It is better to be a dead hero than to be a live coward.

Section B

Instructions:

This final section of the questionnaire is to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives numbered 0 or 1. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Indicate your choice by making a heavy PENCIL mark within the space numbered 0 or 1 on your answer sheet depending on which one corresponds to your choice on that item. Ignore the extra options in the answer sheet grids.

In some instances you may discover that you believe both statements or neither one to be true. In such cases, be sure to select the one you more strongly believe to be the case as far as you are concerned. Also try to respond to each item independently when making your choices; do not be influenced by your previous choices.

REMEMBER

Select that alternative which you personally believe to be more true.

35. (0) Children get into trouble because their parents punish them too much.

(1) The trouble with most children nowadays is that their parents are too easy with them.

36. (0) Many of the unhappy things in people's lives are partly due to bad luck.

(1) People's misfortunes result from the mistakes they make.

37. (0) In the long run people get the respect they deserve in this world.

(1) Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

38. (0) Without the right breaks one cannot be an effective leader.

(1) Capable people who fail to become leaders have not taken advantage of their opportunities.

39. (0) No matter how hard you try some people just don't like you.

(1) People who can't get others to like them don't understand how to get along with others.

40. (0) Heredity plays the major role in determining one's personality.

(1) It is one's experiences in life which determine what he's like.

41. (0) Becoming a success is a matter of hard work, luck has little or nothing to do with it.

(1) Getting a good job depends mainly on being in the right place at the right time.

42. (0) The average citizen can have an influence in government decisions.

(1) This world is run by the few people in power, and there is not much the little guy can do about it.

43. (0) When I make plans, I am almost certain that I can make them work.

(1) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

44. (0) There are certain people who are just no good.

(1) There is some good in everybody.

45. (0) In my case getting what I want has little or nothing to do with luck.

(1) Many times we might just as well decide what to do by flipping a coin.

46. (0) Who gets to be the boss often depends on who was lucky enough to be in the right place first.

(1) Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

47. (0) As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

(1) By taking an active part in political and social affairs the people can control world events.

48. (0) Most people don't realize the extent to which their lives are controlled by accidental happenings.

(1) There really is no such thing as "luck."

49. (0) One should always be willing to admit mistakes.

(1) It is usually best to cover up one's mistakes.

50. (0) It is hard to know whether or not a person really likes you.

(1) How many friends you have depends on how nice a person you are.

51. (0) With enough effort we can improve the political situation.

(1) It is difficult for people to have much influence over the things political leaders do in office.

52. (0) A good leader expects people to decide for themselves what they should do.

(1) A good leader makes it clear to everybody what their jobs are.

53. (0) Many times I feel that I have little influence over the things that happen to me.

(1) It is impossible for me to believe that chance or luck plays an important role in my life.

54. (0) What happens to me is my own doing.

(1) Sometimes I feel that I don't have enough control over the direction my life is taking.

Thank you for completing this instrument.

You should:

1. Make sure you have completed EVERY item according to instructions.

2. Insert your mark-sensitive answer sheets inside the front cover of this booklet.

Please insert the booklet with the answer sheets in the pre-addressed envelope provided. Your cooperation in this project is appreciated.

GLOSSARY OF TERMS

(For reference purposes in completing Part II of the questionnaire.)

ADULT VOCATIONAL EDUCATION--

that part of education, often called continuing education, acquired after "formal" schooling is terminated

BEHAVIORAL OBJECTIVES--

often called performance objectives, this term refers to the learning outcomes which students should be able to demonstrate

COOPERATIVE EDUCATION--

a program involving the coordination of classroom instruction with students' experiences on-the-job

CORE VOCATIONAL CURRICULUM--

a plan of instruction in which all vocational students, regardless of vocational service area, take one or more vocational education courses designed to provide the "common" knowledge, attitudes, and skills needed by persons in any vocation

DIFFERENTIATED TEAM TEACHING--

a staffing arrangement incorporating several levels of professional preparation (e.g., teacher assistants, associate teachers, master teachers) where team members work together to utilize their special abilities to greatest advantage

DISADVANTAGED STUDENTS--

all students with socio-economic, mental or physical handicaps which influence their success in vocational education programs

INDIVIDUALIZED INSTRUCTION--

the adaptation of classroom instruction to the individual's needs and rate of learning

OCCUPATIONAL EDUCATION--

formal instruction about the "world of work" during elementary and junior high years

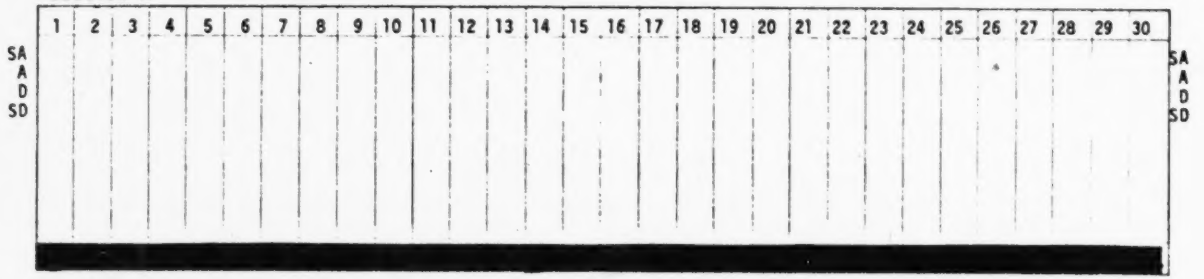
PART II

Project Vocational Teacher Opinions

Date May 1971

Code B26

Section A



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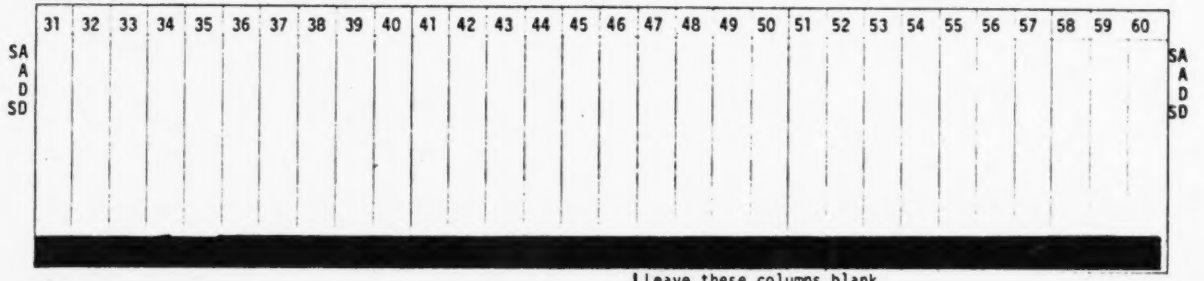

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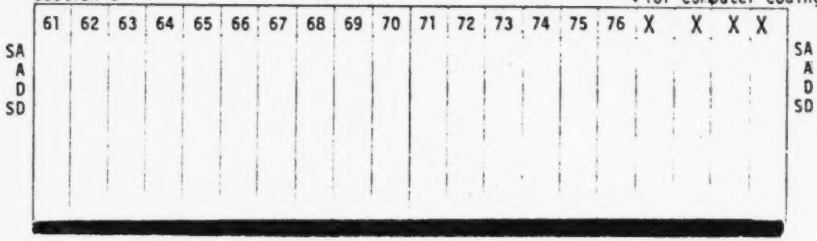

PART II

Project Vocational Teacher Opinions Date May 1971

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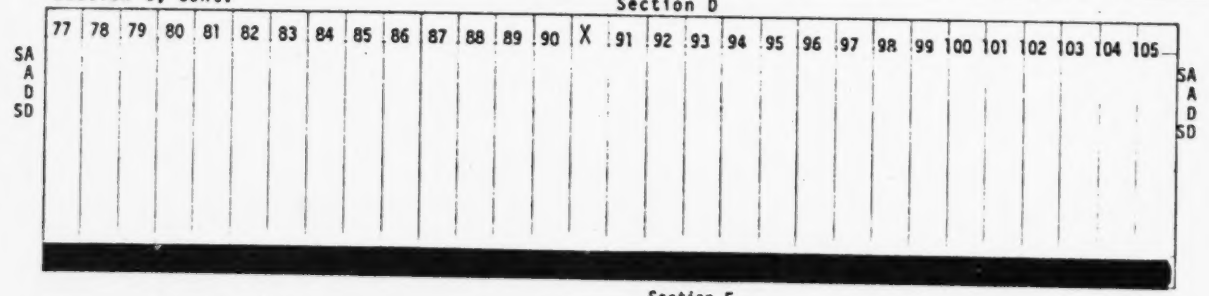
Section D



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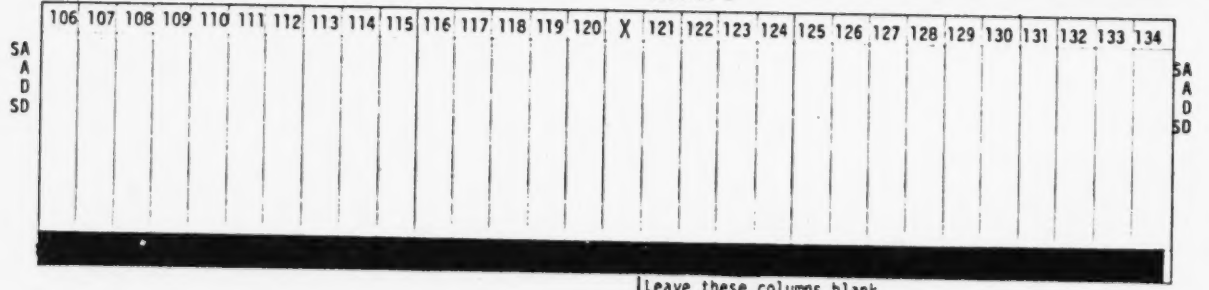

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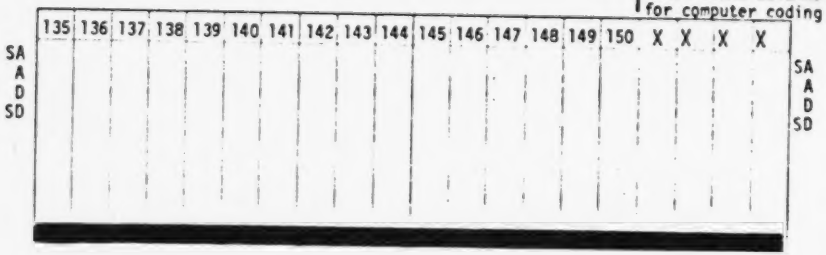

PART II

Project Vocational Teacher Opinions

Date May 1971

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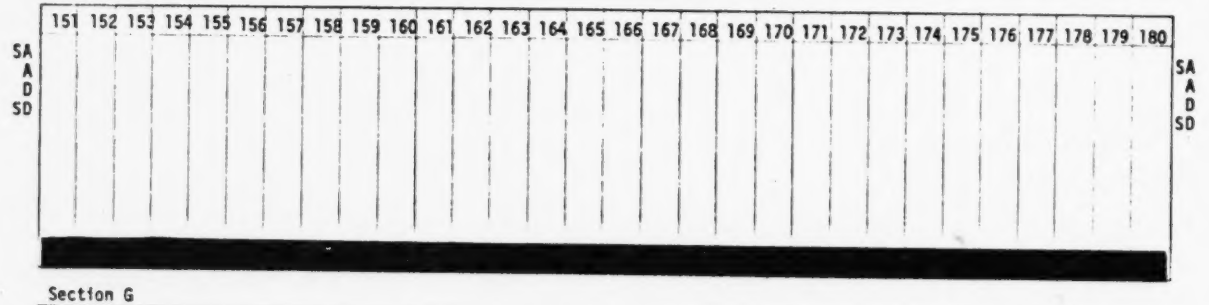
Section F



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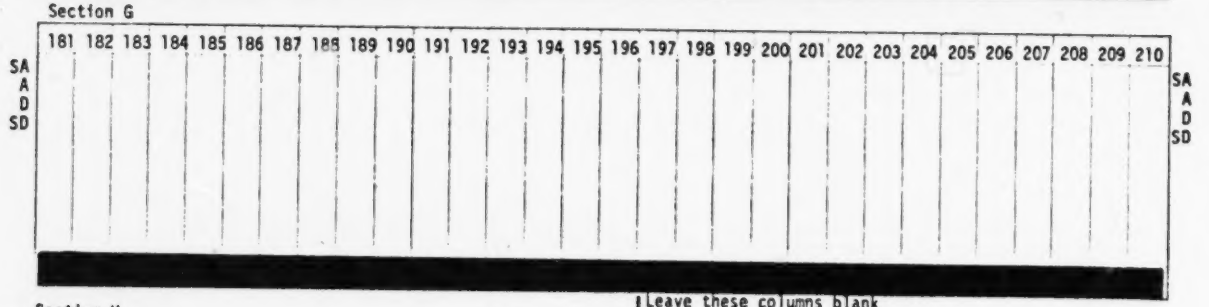

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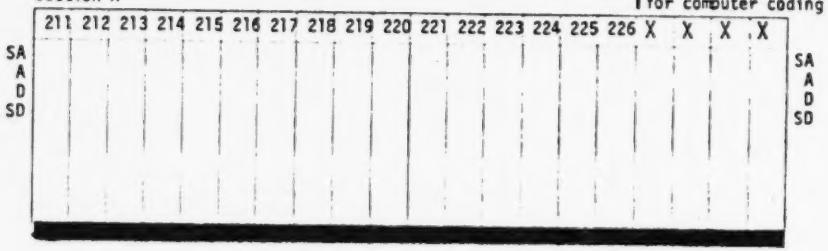

PART II

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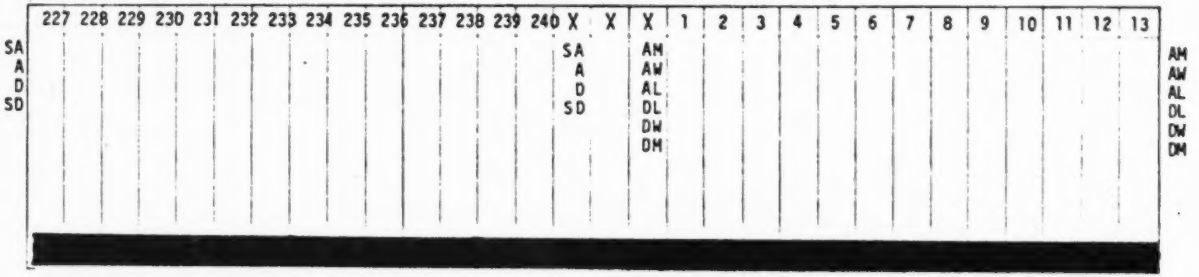
Section H, cont.

Part III, Section A



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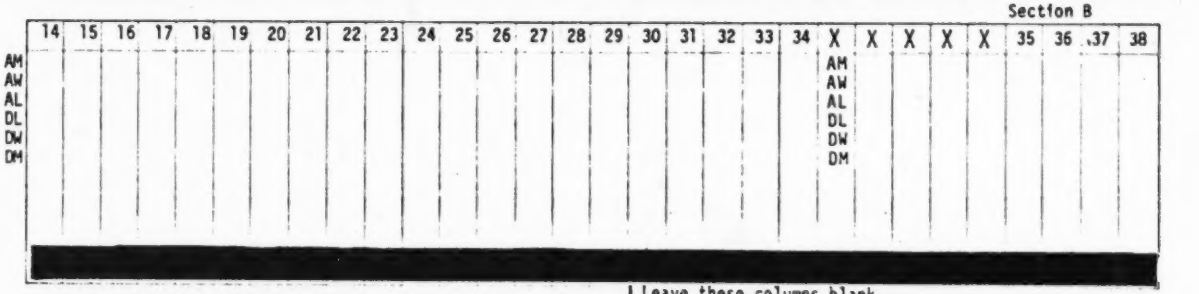

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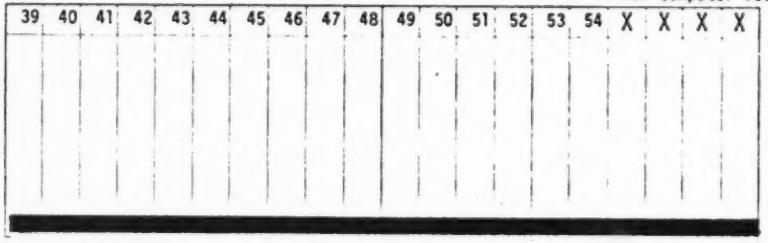

THANK YOU! Please make sure you have completed every item.

APPENDIX G

TABLE 16

FACTOR LOADINGS OF EACH ITEM IN THE EIGHT SUBSCALES ON THE GENERAL FACTOR AND SUBFACTORS FROM WHERRY-WINER'S HIERARCHICAL FACTOR ANALYSIS

Item[a] Number	Factor Loadings			
	General Factor	Sub-factor 1	Sub-factor 2	Sub-factor 3
1	.1690	.0570	.0173	.0391
2	.3598	.1708	-.0319	-.0129
3	.1649	.0481	.0472	.0254
4	.2636	.1005	.0562	-.0232
5	.3650	.1558	.0158	-.0113
6	.3772	.1655	.0720	-.1049
7	.2582	.0749	.1005	.0055
8	.3027	.1390	-.0313	.0134
9	.2919	.1229	.0564	-.0621
10	.3666	.1985	-.1454	.0470
11	.3581	.1716	.0075	-.0724
12	.2964	.1443	-.0387	-.0073
13	.1504	.1031	-.0086	-.1331
14	.2829	.1943	-.1993	-.0026
15	.3922	.1210	-.0832	.3009
16	.3766	.2045	-.0820	-.0456
17	.2092	.0674	-.0143	.1088
18	-.0722	-.0305	.0876	-.1221
19	.3915	.2387	-.2179	.0333
20	.2026	.1225	-.1575	.0821
21	.3283	.2037	-.1634	-.0119
22	.3039	.1018	.1323	-.0651
23	.4007	.1639	.0032	.0338
24	.1607	.0908	.0153	-.1013
25	.4303	.1066	.1043	.1643
26	.3370	.1373	.0598	-.0472
27	.1813	.0830	.0104	-.0307
28	.2287	.0175	.2747	-.0610
29	.1669	.0526	.0815	-.0349
30	.2668	.0760	.0927	.0259
31	.3169	.1098	.0113	.0906
32	.3280	.0673	.0742	.1856
33	.2600	.0970	.0093	.0478
34	.3178	.1226	.0572	-.0195
35	.3279	-.0128	.2587	.2411
36	.3463	.0311	.2303	.1422
37	.3229	.0540	.1127	.1759
38	.1038	.0048	.0812	.0433
39	.3401	.0326	.2665	.0771

TABLE 16 Cont.

Item [a] Number	Factor Loadings			
	General Factor	Sub-factor 1	Sub-factor 2	Sub-factor 3
40	.2924	.0886	.0109	.1613
41	.3215	.0091	.1382	.3104
42	-.1236	.0565	.0478	-.0757
43	.4783	.1488	.1153	.0676
44	.2561	.0306	.1427	.1137
45	.4183	.0713	.2024	.1460
46	.3658	.0782	.1210	.1434
47	.3899	.0898	.1453	.1057
48	.1236	.0186	-.0067	.1249
49	.3652	.0982	.0700	.1352
50	.3514	.0373	.2311	.1260
51	.2413	.0264	.2442	-.0328
52	-.0073	-.0314	.0675	.0160
53	.0923	-.0243	.1139	.0910
54	.1744	.0157	.0510	.1599
55	.2378	.0416	.0757	.1324
56	.3369	.0987	-.0243	.2146
57	.3298	.0338	.1810	.1715
58	.1521	-.0238	.1428	.1491
59	.3868	.0479	.1815	.2117
60	.2269	.1030	-.0281	.0208
61	.3752	.2153	-.0799	-.0920
62	.4740	.1868	.0706	-.0238
63	.506]	.2401	-.0015	-.0764
64	.4004	.1493	.1238	-.0750
65	.4127	.1112	.1187	.0981
66	.3583	.1296	.0937	-.0286
67	.3658	.1355	.0196	.0620
68	.3743	.1214	.0854	.0407
69	.4318	.1217	.1217	.0857
70	.3385	.1330	.0695	-.0415
71	.3888	.1326	.1471	-.0620
72	.2235	.0825	.1612	-.1640
73	.3273	.1381	.0589	-.0651
74	.3826	.1226	.1306	-.0117
75	.4437	.1767	.0448	-.0002
76	.4529	.1616	.0946	.0049
77	.3438	.1155	.1186	-.0323
78	.3746	.1349	.1121	-.0469
79	.3981	.1423	.1740	-.1201
80	.3494	.1474	.0977	-.1168
81	.4241	.1611	.1481	-.1139
82	.3767	.1425	.0748	-.0214
83	.1841	.0484	.1000	-.0154

TABLE 16 Cont.

Item Number [a]	Factor Loadings			
	General Factor	Sub-factor 1	Sub-factor 2	Sub-factor 3
84	.4513	.1333	.1475	.0386
85	.3390	.1196	.1679	-.1229
86	.3014	.0828	.1097	.0344
87	.3484	.1398	.0857	-.0733
88	.1164	.0747	.0121	-.1091
89	.4604	.1591	-.1200	-.0077
90	.3454	.1357	.0976	-.0784
91	.1131	.0268	.0160	.0634
92	.2015	.0520	.0133	.1173
93	.3353	.1305	-.0223	.0877
94	.1091	.0084	.0875	.0298
95	.3093	.1132	-.0241	.1129
96	.3108	.1030	.0139	.1026
97	.2081	.0265	.0676	.1521
98	.1700	.0307	.0386	.1118
99	.1679	.0675	-.0794	.1283
100	.1965	.1029	-.0553	.0076
101	.1704	.0263	.0981	.0487
102	.1265	-.0224	.1504	.0910
103	.1061	.0114	.0624	.0475
104	-.0410	-.0168	.0131	-.0215
105	.3683	.1581	-.0118	.0226
106	.2042	.0784	.0187	.0137
107	.2507	.0978	.0036	.0369
108	.1232	.0102	.1113	.0140
109	.2490	.0840	-.0573	.1698
110	.2678	.0968	-.0082	.0852
111	.2490	.0711	.1069	-.0040
112	.2002	.0542	.0248	.0910
113	.2559	.0648	.1242	.0080
114	.3748	.1555	.0277	-.0106
115	.2879	.0837	.1033	.0173
116	.3791	.1532	-.0415	.0998
117	.3851	.1515	-.0323	.1038
118	.2058	.0963	.0229	-.0579
119	.3216	.1328	-.0267	.0620
120	.4370	.1807	-.0417	.0907
121	.2606	.1414	-.1737	.1278
122	.1586	.0488	.0387	.0237
123	.3207	.1663	-.0584	-.0243
124	.2870	.1265	-.0124	.0093
125	.2870	.1265	-.0124	.0093
126	.1088	.0144	.0867	.0075

TABLE 16 Cont.

Item Number [a]	Factor Loadings			
	General Factor	Sub-factor 1	Sub-factor 2	Sub-factor 3
127	.3742	.0298	.2555	.1593
128	.3590	.0983	.0627	.1344
129	.3488	.0864	.0775	.1430
130	.3458	.0709	.1685	.0732
131	.3047	.0998	.0847	.0086
132	.3786	.1049	.1211	.0623
133	.4457	.0538	.2416	.2049
134	.3163	.0351	.1615	.1709
135	.3622	.0798	.0722	.1974
136	.2310	.0461	.0533	.1344
137	.2679	-.0054	.2251	.1587
138	-.0048	.0459	-.1409	.0083
139	.2104	.0100	.0850	.1951
140	.3692	.0872	.1385	.0906
141	.4035	.0611	.1375	.2487
142	.3786	.0578	.1299	.2304
143	.3785	.0423	.1601	.2484
144	.1966	.0073	.1165	.1396
145	.3927	.0912	.1390	.1138
146	.4207	.0815	.1934	.1232
147	.4174	.0962	.0893	.2031
148	.2351	.0665	.0900	.0134
149	.2967	.0581	.1512	.0647
150	.4530	.1153	.1227	.1439
151	.1755	-.1127	.4427	.1202
152	.3534	-.0058	.4742	-.0363
153	.4531	.0741	.4257	-.1104
154	.3050	-.0314	.5174	-.0777
155	.4174	.0614	.2920	.0604
156	.0145	.0125	.0159	-.0453
157	.3951	-.0255	.5755	-.0296
158	.4196	.0081	.3890	.1360
159	.4138	-.0113	.4757	.0826
160	-.1930	.0211	-.2814	-.0183
161	.2566	-.1078	.6500	-.0461
162	.4051	.0605	.4310	-.1452
163	.4297	.0907	.1887	.1093
164	.2349	-.0707	.5411	-.0758
165	.3339	-.0287	.5576	-.0944
166	.4551	.0087	.4597	.0963
167	.3449	-.0757	.6832	-.0675
168	.4295	-.0097	.5105	.0555
169	.3355	.0464	.2754	.0047

TABLE 16 Cont.

Item a Number	Factor Loadings			
	General Factor	Sub-factor 1	Sub-factor 2	Sub-factor 3
170	.3805	.0492	.3149	.0152
171	.4390	.0212	.3983	.1056
172	.4624	.0960	.3163	-.0299
173	.3398	-.0315	.4700	.0449
174	.4264	.0017	.4502	.0885
175	.2149	.0320	.1894	-.0234
176	.2005	.0256	.1773	-.0063
177	.3279	-.0060	.3911	.0352
178	.3140	.0503	.2537	-.0166
179	.3520	.0252	.2671	.1243
180	.3283	-.0453	.6034	-.1025
181	.2497	.0764	.0496	.0547
182	.1654	.0282	.1130	.0129
183	.3655	.0882	.0297	.2285
184	.2525	.0431	.1246	.0848
185	.0446	-.0169	.0702	.0431
186	.2222	-.0014	.1615	.1543
187	.3463	.0504	.1948	.1168
188	.4443	.1732	-.0567	.1519
189	.4314	.1079	.1127	.1499
190	.2902	.0517	.0941	.1558
191	.1045	.0319	-.0095	.0644
192	.4468	.1110	.1320	.1374
193	.4500	.0640	.2213	.2007
194	.3566	.0519	.1410	.2015
195	.4361	.0960	.1295	.1804
196	.3190	-.0098	.2738	.1943
197	.4765	.1242	.1622	.0952
198	.3807	.0833	.0751	.2108
199	.3949	.0709	.0502	.3155
200	.0973	-.0549	.1941	.1072
201	.2599	.0044	.2419	.0852
202	.2599	.0414	.0482	.2072
203	.0350	-.0043	.0199	.0476
204	.2366	.0184	.0819	.2108
205	.3199	.0147	.2213	.1734
206	.2393	-.0276	.3056	.0867
207	.4740	.0512	.2104	.3043
208	.2296	-.0414	.1618	.3189
209	.4033	.1207	-.0266	.2436
210	.4812	.0576	.2202	.2785
211	.2533	.0151	-.1408	.5538
212	.3828	-.0036	.1820	.4010

TABLE 16 Cont.

Item [a] Number	Factor Loadings			
	General Factor	Sub-factor 1	Sub-factor 2	Sub-factor 3
213	.3517	-.0007	-.0114	.6013
214	.4370	.0209	.1324	.4647
215	.2661	-.0346	.0112	.5581
216	.2919	.0258	.0565	.3086
217	.2080	-.0566	.0266	.5248
218	.2016	-.0569	.0503	.4834
219	.3276	.0011	-.0157	.5604
220	.2731	.0440	-.1758	.5238
221	.3384	.0019	-.0000	.5538
222	.4394	.0507	.0747	.4332
223	.0817	-.0337	-.0143	.2835
224	.1720	-.0352	-.1145	.5754
225	.3694	-.0158	.0938	.5456
226	.3561	-.0009	.0174	.5701
227	.3786	.0496	-.1096	.5871
228	.4656	.1050	-.0292	.4105
229	.2620	-.0931	.1167	.6317
230	.1211	.0387	-.0171	.0761
231	.3447	.0957	-.0526	.2773
232	.3812	.0094	-.0107	.6105
233	.0984	-.0442	-.0609	.4150
234	.1915	-.0292	-.0659	.5187
235	.2378	-.0059	.0044	.4109
236	.3733	-.0413	.1444	.5806
237	.2019	-.0209	-.0507	.4837
238	.2605	-.0328	-.0574	.6350
239	.1811	-.0397	.0251	.4179
240	-.1641	-.0377	-.0531	-.0560

[a]Statements represented by these item numbers are in Part II of the questionnaire (see Appendix F) as follows: items 1-30 in Section A; items 31-60 in Section B; . . .; and items 211-240 in Section H.

APPENDIX H

TABLE 17

INTERCORRELATIONS AMONG THE EIGHT SUBSCALES

Subscale	1	2	3	4	5	6	7	8
1. Reducing the number of under-prepared people entering the labor market.		.485**	.446**	.354**	.412**	.451**	.429**	.345**
2. Meeting the special needs of disadvantaged students.			.364**	.353**	.485**	.507**	.474**	.466**
3. Beginning preparation for employment at an earlier age.				.218*	.382**	.366**	.295**	.168
4. Cooperative education.					.279**	.216*	.312**	.244*
5. Individualization of instruction and behavioral objectives						.401**	.519**	.326**
6. Adult education							.438**	.242*
7. Team teaching and differentiated staffing								.417**
8. Core vocational curricula								

* $p < .05$
** $p < .01$

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